MECHATROLINK
Products of MMA Members Brochure

October 2024



MECHATROLINK MEMBERS ASSOCIATION

Introduction

In recent years, systems for manufacturing and production are becoming increasingly complex. More motorized devices are being used in manufacturing or production lines to attain the complex motions that are required for today's sophisticated manufacturing techniques. Analog control has been used to control the devices in these lines, but the vast amount of wiring required for analog control makes it difficult to connect a large number of devices. The functions that analog control can offer are too limited to satisfy the demand for higher levels of control. Today, control using digital communications is increasing in demand and replacing analog control. Also, to meet the demand for increased productivity, a cycle time that is one second or even one millisecond shorter will result in a shorter control cycle between control devices. Accordingly, the demand for high-speed digital communications is on the rise to attain these desired results.

Customers frequently change models and manufacturers for their control devices to take advantage of rapidly decreasing prices and improvements in function and control performance. They expect a rich selection of control devices and technologies to be readily available so they can connect an ever-increasing number of devices from various vendors. Most manufacturing equipment consists of two sections: a drive section and an I/O control section. Customers want to control both sections with the use of only one digital communications line.

MECHATROLINK can meet these demands through digital communications. We offer a full line-up of MECHATROLINK-compliant products, including master controllers, I/O devices, and various types of drives, such as servos, inverters, and stepper drives. These products can be connected to a single communications line. MECHATROLINK is an open network, and its technical information is available (for disclosure) to all members of the MECHATROLINK MEMBERS ASSOCIATION (MMA).

Already, more than 7,750,000 nodes exist on the MECHATROLINK network because of the products that have been shipped and are in use worldwide. The MMA is a group of companies who promote the use of MECHATROLINK communications. More than 3,324 companies from all over the world have joined the MMA as of October 2019 and have developed a variety of new MECHATROLINK-compliant products.

The MMA website, which includes pages for members only, introduces various MECHATROLINK products and provides technical information on MECHATROLINK.

MECHATROLINK can provide high-speed communications in transmission cycles from 31.25 sec at 100 Mbps. Up to 62 nodes can be connected, and fully synchronized control between nodes can be achieved. Two-mode Master and Slave ASIC, economical compact Slave Only ASIC, and an IP core for FPGA allows you to construct the best configuration of hardware for your applications. In addition to FPGA, we will continue to develop MECHATROLINK-Ⅲ, which is built into various MPUs, to help construct easier MECHA-TROLINK-compliant systems.

To further widen the global MECHATROLINK network, the MMA established eight offices in major markets overseas. The MMA is also planning to set up booths in several exhibitions and trade shows to increase people's familiarity with MECHATROLINK.

The MMA continues its efforts to encourage even wider use of MECHATROLINK with a larger number of products and to be positioned as an industry standard for easy-to-use motion networks.

MECHATROLINK is an open-end network, with a wide selection of MECHATROLINK products available that are mainly focused on motion control. We hope that you will find this catalog, containing all the information you require to understand the wonders of MECHATROLINK, useful.

MECHATROLINK MEMBERS ASSOCIATION
General Secretary of the MMA
Hironobu Shimohata
November 2019

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Controller

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SDevice

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MECHATROLINK-III・MECHATROLINK-4 compliant

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MECHATROLINK-II compliant

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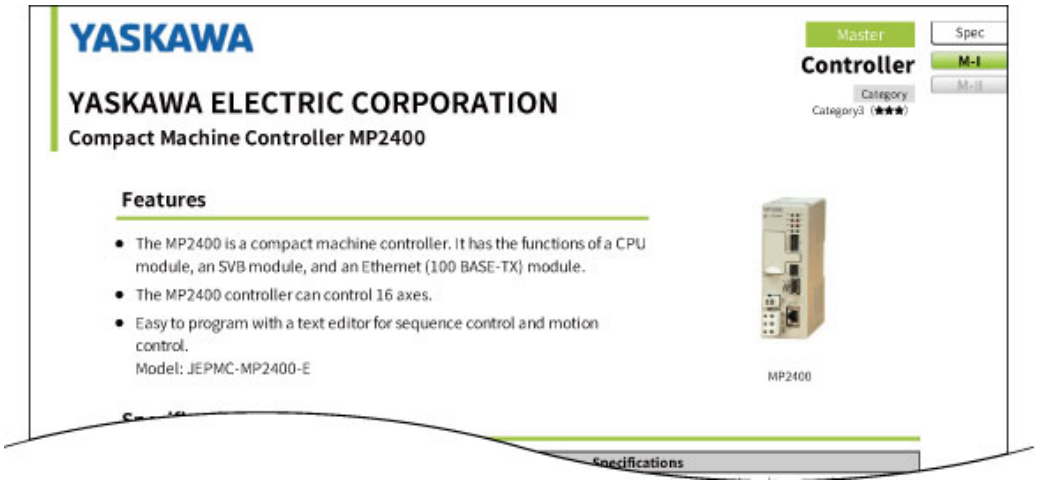
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MDevice Product Categorization by Implemented Commands

In this brochure, MDevice products are classi ed into three categories according to the commands they implement, as described in the next page. The category is shown above the introduction of each MDevice product to let you know at a glance what class of commands it implements.

＜Category indication example＞



Implemented Commands and Specifications for Each Category

MECHATROLINK- II M- II

MDevice Product Category	Implemented Commands (When basic operations are supported)	Required Communications Specifications
Category 3（★ ★ ★）	Servo commands Stepper commands I/O commands（Intelligent/Simple Inverted commands	1/2 msec 17/32 byte mode Synchronous/asynchronous mode
Category 2（★ ★）	Servo commands Stepper commands I/O commands（Intelligent/Simple）	1/2 ms 17/32 byte mode Synchronous or asynchronous mode
Category 1（★）	Servo commands	2 ms 17-byte or 32-byte mode Synchronous or asynchronous mode

MECHATROLINK-III M-III

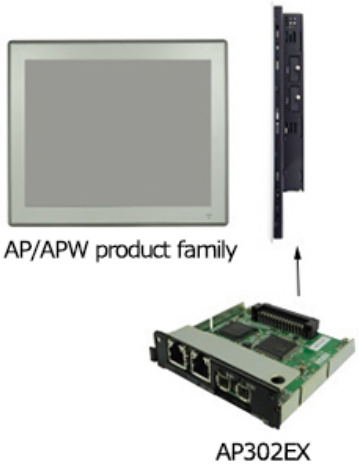
MDevice Product Category	Implemented Commands (When basic operations are supported)	Required Communications Specifications
Category 3（★ ★ ★）	Servo commands Stepper commands I/O commands（Intelligent/Simple) Inverter commands	0.5/1 ms Servo,Stepper: 32/48 byte mode Inverter: 32/64 byte mode I/O：16/32/48/64 byte mode Synchronous or asynchronous mode
Category 2（★ ★）	Servo commands Stepper commands I/O commands（Intelligent/Simple)	0.5/1 ms Servo,Stepper: 32/48 byte mode I/O：16/32/48/64 byte mode Synchronous or asynchronous mode
Category 1（★）	Servo commands	1 ms 32-byte or 48-byte mode Synchronous or asynchronous mode

ALGOSYSTEM CO.,LTD.

MECHATROLINK-III Master Modules

Features

- Intel Core i7/Celeron embedded Industrial Computers:
  AP/APW & FP product families - LCD touch-paned installed FC product family for more PCIe slots without LDC panel.
- High speed Field Buses available on R/T OS INtime Bundled MECHATROLINK-III Master capability & Library on the R/T OS
- High speed, extremely fine and multifunctional Motion Controlling utilized on the PC architecture platform above.
  Various motion controlling can be realized on single platform.
- Various tools prepared:
  Precision analysis for multi-axial control, torque and etc.
  Tools to tune for optimized control, for example.



Specifications (AP302EX)

Item	Specification
Interface and Protocol	MECHATROLINK-III Compliant
Transmission Speed	100 Mbps
Communication Cycle Time	31.25 micro-sec. - 8 mili-sec.
Communication Mode	Cyclic Transfer
Connection Topology	Cascade-type / Star-type
Maximum Transmission Length	100m
Minimum Length between Slave Nodes	0.2m
System Bus	PCIe (specialized)
Maximum Nodes	62 nodes
Presumed OS	INtime4.2 Windows Embedded Standard 2009 Windows Embedded Standard 7
Connectors	8 pin - industrial I/O connectors × 2 recommended connector model: 2040008-2 (Tyco Electronics)

MECHATROLINK specifications

		M-III			
		16-byte	32-byte	48-byte	64-byte
Profile	Standard servo	-	×	×	-
	Standard I/O	×	×	×	×
	Standard Stepping Motor Drivers	-	-	-	-
	Standard Inverter	-	-	-	-
Transmission cycle		31.25μs to 8ms			

Contact Information

ALGOSYSTEM CO., LTD.
656 Kobirao, Mihara-ku, Sakai, Osaka 587-0021, Japan TEL : +81-72-362-5067 FAX : +81-72-362-4856
URL : http://www.algosystem.co.jp

KEYENCE CORPORATION

Positioning/Motion unit KV-XH04ML, KV-XH16ML

Features

- Incorporated with a 1GHz Dual Core SoC motion control CPU for high-speed motion control period (125 μs/5 axes).
- Units are able to execute programs autonomously, allowing for highly responsive motor control. Furthermore, processing can be decentralized, allowing CPU load to become lighter for stable system control.
- Synchronicity with less than 1 μs of variability between PLC system and servo amplifi er is possible.
- Full coverage for positioning, speed, torque, interpolation (linear/arc/helical) and synchro-nization control with just 1 unit.
- Supported programming: ladder program, flow and C language.
- Line-up: 4-axis type (KV-XH04ML), 16-axis type (KV-XH16ML)



KV-XH04ML
KV-XH16ML

Specifications

Item	Specifiication	
	KV-XH16ML	KV-XH04ML
Control mode	MECHATROLINK-Ⅲ (Positioning / speed / torque / ML-Ⅲ / I/O control)	
No. of control axes	16 axes (total including virtual axes)	4 axes (total including virtual axes)
Connectable CPU unit	KV-7500/7300	
Max. number of connectable units	7	16
Control period	62.5 μs or more	500 μs or more
Axis control function execution method	Ladder program, unit program (flow, C language)	Ladder program,unit program (flow)
Unit program capacity	3MB	
Position unit	mm, deg (angle), PLS (number of pulses) Decimal point position from 0 to 9 digits, unit conversion function available	
Positioning control	Absolute/relative value, linear/arc/helical interpolation	
Synchronization control	Input: external reference, instruction coordinates, current coordinates Cam resolution: 2048 to 32768, Data points: 4 to 64 Compensation: compensation via auxiliary input, phase compensation, and step angle compensation	
Origin return method	Data set type, dog type (push), dog type (selectable from “with Z phase” or “without Z phase”), dog type sizing (selectable from “with Z phase” or “without Z phase”), immediate Z phase, origin sensor and Z phase, rising edge of limit switch, origin sensor midpoint/rising edge	

MECHATROLINK Specifications

		M-III			
		16-byte	32-byte	48-byte	64-byte
Profile	Standard servo	-	-	×	-
	Standard I/O	×	×	×	×
	Standard Stepping Motor Drivers	-	-	×	-
	Standard Inverter	-	-	-	×
Transmission cycle		KV-XH16ML：62.5μs, 125μs, 250μs, 500μs, 750μs, 1ms, 1.5ms, 2ms KV-XH04ML：500μs, 750μs, 1ms, 1.5ms, 2ms			

Contact Information

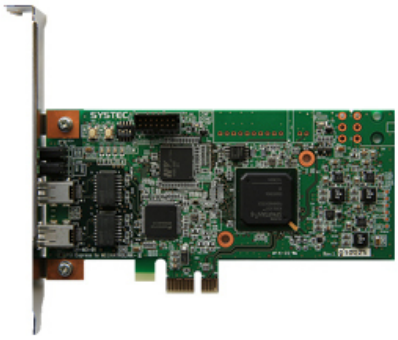
KEYENCE CORPORATION
1-3-14, Higashinakajima Higashiyodogawa-ku, Osaka 533-8555, Japan
TEL : +81-6-6379-1271
FAX : +81-6-6379-1270
E-mail : seigyo-qa@keyence.co.jp
URL : http://www.keyence.co.jp

SYSTEC Corporation

PCI Express MECHATROLINK-III Interface Card

Features

- By connecting to a PCI Express slot (PC, etc.) with a dedicated MECHATROLINK-III communication driver, a PC based High-Speed and High-Performance control can be achieved.
- The Cyclic Communication of MECHATROLINK-III ASIC is automatically controlled by FPGA.
- The Command/Response data between PC and MECHATROLINK-III ASIC is automatically transmitted by the DMA function of the FPGA. (Using a dedicated library for automatic transfer)
- Supports Master/Slave External Synchronization.
- API library for INtime is separately provided.
- Support up to 62 node connection / 62 axis controls. (The maximum number of connection depends on the host application)



SY-M3-01

Specifications

Item	Specifications
Bus standard	Gen1×1 PCI Express bus
Communication	MECHATROLINK-III Master (C1 Master)
No. of MECHATROLINK channels	1 (IMI Connector×2)
External synchronization	With optional connector, 1 master can control 5 slaves.
Supported OS	INtime5 or later
Power supply	12V (PCI Express slot power)
Board size	130mm × 69mm (Supports Low Profi le bracket)

MECHATROLINK specifications

		M-III			
		16-byte	32-byte	48-byte	64-byte
Profile	Standard servo	-	×	×	-
	Standard I/O	×	×	×	×
	Standard Stepping Motor Drivers	-	×	×	-
	Standard Inverter	-	×	-	×
Transmission cycle		31.25 µs to 8ms		62.5 µs to 8ms	

Contact Information

SYSTEC Corporation
1-9-9 Shin-Miyakoda, Kita-ku, Hamamatsu-shi, Shizuoka-ken, 431-2103 Japan
TEL : +81-053-428-4931
FAX : +81-053-428-4310
E-mail : sys-ip@systec.co.jp
URL : http://www.systec.co.jp/

TECHNO HORIZON Co.,Ltd.

PCI Motion control board
169002-MBY-LE01 series

Features

It is suitable for motion control system application.

- Maximum 31 axes synchronization can be possible.
- Pulse output type software compatibility is available on this motion control board. So it is easer to convert current pulse interface to the network, also it can be realize in low cost.
- Support variety of external interface such as AE-LINK, external 2 inputs, external 1 input. It is possible to connect many slave devices from this board. And if large number of Input/Output points are necessary, it also supports Remote IO function (Cunet).
- Software library is available to support customer software development.



169002-MBY-LE01/01

Transmission cycle (ms)	Maximum notes
0.25	8
0.5	14
1	21
2	31

Specifications

Items		Specifications
Processer	CPU	SH4 HD6417750R 200MHz
	Memory	FRASH ROM 8MB
		SDRAM 16MB
		SRAM 128KB (Backup memory)
		EEPROM 8KB
		Shared memory 128KB (For data trasfer)
Servo I/F	Connector	RJ-45×2
	Interface	MECHATROLINK-III
External input		2PORT (sink/source switch)
External output		1PORT (sink/source switch)
Remote I/O		Cunet (MKY40)
Serial I/F	Interface	AE-LINK
	Board rate	115.2Kbps (Maxmimum)
Support OS		Microsoft WindowsXP (Please ask for other OS)

MECHATROLINK specifications

		M-III			
		16-byte	32-byte	48-byte	64-byte
Profile	Standard servo	-	-	×	-
	Standard I/O	-	-	-	-
	Standard Stepping Motor Drivers	-	-	-	-
	Standard Inverter	-	-	-	-
Transmission cycle		0.25ms, 0.5ms, 1ms, 2ms			

Contact Information

TECHNO HORIZON Co.,Ltd.
Sales Dept. 1-3-4 Shioya-cho, Minami-ku, Nagoya, 457-0078 Japan TEL : +81-52-824-7373 FAX : +81-52-811-4737
URL : https://www.technohorizon.co.jp/

NEXCOM International Co., Ltd.

NControl series - the Comprehensive CNC Solution for 2D/3D Special Machining

Features

NControl series provides a comprehensive CNC solution to 2D and 3D machining. Providing high level CNC functionalities, such as TCP for 5-axis machining and high speed machining with look ahead and polynomial, NControl series ensures high machining precision with high speed.



NControl 30

Specifications

Item	Specifications
Controlled Axes	Up to 14
Machining Channels	Up to 2
Fieldbus	MECHATROLINK-III
Servo Driver	YASKAWA Σ-V MECHATROLINK-III Series
High Speed I/O	4in/4out
Manual Pulser Input	1(A/B/Z)
Analog I/O	1in (16-bit)/1out(16-bit)
Display port	Dual VGA or VGA/DVI Independent Display
Ethernet	2 × 10/100/1000 MHz
USB	6 × USB 2.0
COM port	4 × RS232 (COM2: RS232/422/485 with Auto Flow Control)
Operating system	Windows CE 6.0
Power Supply	24V DC
Power Consumption	2.5 Amp at 24V DC
Dimensions	195mm (W) × 268mm (D) × 101mm (H) (7.7" × 10.5" × 3.98")

MECHATROLINK specifications

		M-III			
		16-byte	32-byte	48-byte	64-byte
Profile	Standard servo	-	-	×	-
	Standard I/O	-	-	-	-
	Standard Stepping Motor Drivers	-	-	-	-
	Standard Inverter	-	-	-	-
Transmission cycle		0.5ms, 1ms, 2ms, 4ms, 8ms			

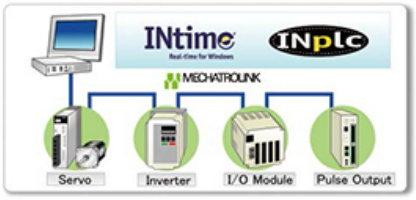
Contact Information

NEXCOM International Co., Ltd.
9F, No.920, Chung-Cheng Rd., Zhonghe Dist., New Taipei City, Taiwan 23586, R.O.C.
TEL : +886-2-8226-7786
FAX : +886-2-8226-7782
E-mail : sales@nexcom-jp.com
URL : http://www.nexcom.com/

Micronet Co.

RSI-2111T/RSI-2111TM
(MECHATROLINK-III driver for INtime)

Features



RSI-2111T/RSI-2111TM is a driver software of YASKAWA motion controllers (MP2111T/MP2111TM) for INtime (Realtime extension OS for Windows).

- Super-high precision and Advanced high-speed motion control The control performance has been improved by speeding up of CPU and the motion network (MECHATROLINK). You can realize advanced high-speed controls such as 1 ms / 21 axes, 0.5 ms / 14 axes, 0.25 ms / 8 axes. You can realize synchronous controls with high accuracy since controlling position, speed and torque is possible with MECHATROLINK-III network.
  You can refer to latest monitoring data at any time since all monitoring data on shared memories are undated per each communicaton.
  You can dissolve timing slippage between changing adjustable-speed and positioning instructions since it's possible to instruct adjustable-speed per a positioning instruction.
- Powerful PC motion-control functions
  More than 40 kinds of motion-control APIs help users to create PC application programs with C language and so on.
- Hight extensibility
  You can mount a maximum of 4 machine controller boards to 1 host PC. 1 machine controller board can control a maximum of 21 stations. Among them you are free to select how you control servo or I/O...

Specifications

Item	Specifications	
	MP2111	MP2111TM
FieldNetwork	MECHATROLINK-III	
Number of channels	1	2
Number of control axis	Each channel - 21 axex (Servo axis or I/O)	
Control performance	Each channel - 8 axes / 0.25 ms (Communication cycle) - 14 axes / 0.5 ms (Communication cycle) - 21 axes / 1 ms (Communication cycle)	
Available equipment	Servo, Linear, DDmotor, Inverter, other various IO	

MECHATROLINK specifications

		M-III			
		16-byte	32-byte	48-byte	64-byte
Profile	Standard servo	-	×	×	-
	Standard I/O	×	×	×	×
	Standard Stepping Motor Drivers	-	-	-	-
	Standard Inverter	-	-	-	-
Transmission cycle		250µs, 500µs, 1ms, 2ms			

Contact Information

Micronet Co.
3-8-11 Horiwari, Kamisu-shi,Ibaraki 314-0135, Japan
TEL : +81-299-90-1733
FAX : +81-299-92-8557
E-mail : efg@mnc.co.jp
URL : https://www.mnc.co.jp

YASKAWA ELECTRIC CORPORATION

Board-type Machine Controller MP2111T, MP2111TM, MP2111TMCP

Features

- MP2111T and MP2111TM and MP2111TMCP machine controllers provide improved throughput from host computers to servomotors with MECHATROLINK-III. The MP2111T and MP2111TM has a half-size PCI bus and the MP2111TMCP has a 6U Compact PCI bus. Attain high-speed motion and I/O control of connected devices from the host computer. The shared memory has been publicly disclosed, so the host computer is not limited to running any one operating system (OS).
- With a two-channel MECHATROLINK port, the processing speed of the MP2111TM and MP2111TMCP machine controllers is twice that of the MP2111T machine controllers.
  Models:
  JAPMC-MC2112T-E (MP2111T)
  JAPMC-MC2132T-E (MP2111TM)
  JAPMC-MC2172T-E (MP2111TMCP)



Specifications

Item	Specifications
Control Method	Motion control with MECHATROLINK-III using position, speed, and torque references.
Number of Controlled Axes	MP2111T : 21 axes max. MP2111TM, MP2111TMCP: 42 axes max.
Applicable Servo Drivers	SGDV-□□□□21□ SGDV-□□□□25□
Reference Unit Minimum Setting	1=1 reference unit
Max. Programmable Value	-2147483648 to 2147483647 pulses (signed 32-bit value)
Operating System	MECHATROLINK mode/command mode: Any OS can be used. API mode: RTLinux, RTX, INtime are available.
Fast-forward Speed	1 to 2097152000 [reference unit/s]
Interpolation Feed Speed	1 to 131068000 [reference unit/s]
Acceleration/Deceleration Control	Linear, asymmetric, S-curve, and index.

MECHATROLINK specifications

		M-III			
		16-byte	32-byte	48-byte	64-byte
Profile	Standard servo	-	-	×	-
	Standard I/O	×	×	×	×
	Standard Stepping Motor Drivers	-	-	×	-
	Standard Inverter	-	×	-	×
Transmission cycle		125 µs, 250 µs, 500 µs, 1ms			

Contact Information

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America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
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YASKAWA ELECTRIC CORPORATION

Integrated Machine Controller MP3200

Features

- Realized optimal machine system by fusioning the motion, vision, and robot system that essential to machine controling.
- Productivity improved by high-speed application processing, maximum speed, 125μs.
- Multi-function (MECHATROLINK-III, Ethernet port and USB port)



MP3200

Power Supply Unit	JEPMC-PSA3012-E	AC Power Supply Unit (AC85 to 276V input)
	JEPMC-PSD3012-E	DC Power Supply Unit (DC24V input)
CPU Unit	JEPMC-CP3201-E	High-Speed Scan setting (minimum scan setting : 125μs)
		Program Memory：32MB, M register*1：1M word, G register*2：2M word
	JEPMC-CP3202-E	High-Speed Scan setting (minimum scan setting : 125 s)
		Program Memory：32MB, M register*1：1M word, G register*2：2M word
MP2000 Option/Base Unit	JEPMC-BUB3005-E	5 slots (for MP2000 option module)
	JEPMC-BUB3008-E	8 slots (for MP2000 option module)
Vision Unit	JEPMC-YVD3001-E	5 million pixel degital camera×4 system, standalone trigger, easy-vision programming

*1: Battery back-up data. *2: General use of Medium capacity register with no battery back-up.

Specifications

Item	Specifications
Control functions	MECHATROLINK-III is a standard feature (MECHATROLINK-Ⅰ/Ⅱ/III: available with option module)
Number of Controlled Axes	MECHATROLINK-III: 32 axes (built-in), Maximum 256 axes (with option module) (MECHATROLINK-Ⅰ: 14 axes/lines, MECHATROLINK-Ⅱ:axes/lines)
Controlled Servo Drive	MECHATROLINK-Ⅰ: SGD-□□□N series, SGDB-□□series, SGDS series, SGDH series +JUSP-NS115 or JUSP-NS110 MECHATROLINK-Ⅱ: SGDS series, SGDH series +JUSP-NS115, SGDV series MECHATROLINK-III: SGDV series
Controlled Unit (minimum reference unit)	1/0.1/0.01/0.001/0.0001/0.00001 (unit：mm, inch, deg, pulse)
Functions controlled by the motion program	positioning, linear interpolation, cicular interpolation, homing, skip-reference,time-setting positioning and external positioning
Rapid traverse speed	1 to 2147483647 (reference unit)
Interpolation traverse speed	1 to 2147483647 (reference unit)
Override	0.001 to 327.67% (positioning axes unit, interpolation:set with group unit)
Accel/decel Processing	linear, non-symmetric, S-curve

MECHATROLINK specifications

		M-III			
		16-byte	32-byte	48-byte	64-byte
Profile	Standard servo	-	-	×	-
	Standard I/O	×	×	×	×
	Standard Stepping Motor Drivers	-	-	×	-
	Standard Inverter	-	×	-	×
Transmission cycle		125 μs, 250 μs, 500 μs, 1ms			

Contact Information

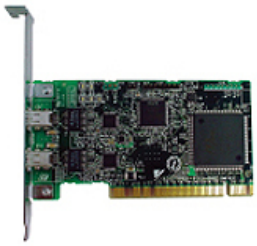
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YASKAWA ELECTRIC CORPORATION

PCI Standard MECHATROLINK-III Interface Card JAPMC-NT112A-E

Features

When this board is installed in a PCI Standard PC, it allows MECHATROLINK-III communication. Applying this board to the MECHATROLINK Communication Port reduces the board development work for the Master of MECHATROLINK.



JAPMC-NT112A-E

Specifications

Item	Specifications
Product name	PCI Standard MECHATROLINK-III Interface Card
Dimensions (mm)	Board part: 120.81 × 64.41, Face plate: 21.4 × 121
Bus	PCI bus
Power voltage	5VDC ± 5%
Baud rate	100Mbps
No. of MECHATROLINK channels	1
No. of connecting stations	62 stations Note: Max. number of stations varies with each host application.
Host OS	1. RTX64 2014, RTX64 3.0 or later (Model: CPMC-NTA710) 2. Windows7/8/8.1/10 (only applicable to asynchronous communication command) (Model: CPMC-NTA711) 3. INtime5.2, INtime6.3 (Model: CPMC-NTA712)

MECHATROLINK specifications

		M-III			
		16-byte	32-byte	48-byte	64-byte
Profile	Standard servo	×	×	×	×
	Standard I/O	×	×	×	×
	Standard Stepping Motor Drivers	×	×	×	×
	Standard Inverter	×	×	×	×
Transmission cycle		31.25 μs to 64ms			62.5 μs to 64ms

Note: Communication LSI and its peripheral circuit are installed, but the CPU is not in this PC-board. Therefore, this specification can be determined by host applications using this PC-board. The specifications are selectable only from the host side.

Contact Information

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YASKAWA ELECTRIC CORPORATION

MECHATROLINK-III Motion control module SVC-01

Features

The SVC-01 module is a motion module equipped with the interface for MECHATROLINK-Ⅲ.
A multi axes control with less wiring can be made by adopting MECHATROLINK. The MECHATROLINK-Ⅲ enables position, speed, torque, and phase control for highly accurate synchronized control. In addition, sophisticated machine operations can be performed by switching the control mode while the axis is moving.

Models : JAPMC-MC2320-E



SVC-01

Specifications

Item	Specifications
Control Method	Motion control with MECHATROLINK-Ⅲ using position, speed, and torque references.
Number of Controlled Axes	16 axes max.
Applicable Servo Drivers	SGDV-□□□□21□, SGDV-□□□□25□
Reference Unit Minimum Setting	1, 0.1, 0.01, 0.001, 0.0001, 0.00001 (Units: mm, inch, deg, pulse, μm)
Max. Programmable Value	-2147483648 to 2147483647 pulses (signed 32-bit value). Unlimited feeding is also available.
Motion Commands	Positioning, linear interpolation, circular interpolation, zero-point return, skip, set time positioning, and external positioning.
Fast-forward Speed	1 to 2147483647 [Reference Units/min]
Interpolation Feed Speed	1 to 2147483647 [Reference Units/min]
Override Function	0.01% to 327.67% (Positioning: by axis; Interpolation: by group)
Acceleration/Deceleration Control	Linear, asymmetric, S-curve, and index.

MECHATROLINK specifications

		M-III			
		16-byte	32-byte	48-byte	64-byte
Profile	Standard servo	-	-	×	-
	Standard I/O	×	×	×	×
	Standard Stepping Motor Drivers	-	-	×	-
	Standard Inverter	-	×	-	×
Transmission cycle		125 μs, 250 μs, 500 μs, 1ms			

Contact Information

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YASKAWA ELECTRIC CORPORATION

MECHATROLINK-III Motion control module (with CPU function) MPU-01

Features

- The MPU-01 is an optional multi-CPU module equipped with SVC module function.
- One controller can be mounted with maximum 16 MPU-01 modules.
- The MPU-01 module can be used combining with upper controller such as MP2100M, MP2300S, MP2310, CPU-03, or CPU-04.

  Models: JAPMC-CP2700-E



MPU-01

Specifications

Item	Specifications
Control Method	Motion control with MECHATROLINK-III using position, speed, and torque references.
Number of Controlled Axes	16 axes max.
Applicable Servo Drivers	SGDV-□□□□21□, SGDV-□□□□25□
Reference Unit Minimum Setting	1, 0.1, 0.01, 0.001, 0.0001, 0.00001 (Units: mm, inch, deg, pulse, μm)
Max. Programmable Value	-2147483648 to 2147483647 pulses (signed 32-bit value). Unlimited feeding is also available.
Motion Commands	Positioning, linear interpolation, circular interpolation, zero-point return, skip, set time positioning, and external positioning.
Fast-forward Speed	1 to 2147483647 [Reference Units/min]
Interpolation Feed Speed	1 to 2147483647 [Reference Units/min]
Override Function	0.01% to 327.67% (Positioning: by axis; Interpolation: by group)
Acceleration/Deceleration Control	Linear, asymmetric, S-curve, and index.

MECHATROLINK specifications

		M-III			
		16-byte	32-byte	48-byte	64-byte
Profile	Standard servo	-	-	×	-
	Standard I/O	×	×	×	×
	Standard Stepping Motor Drivers	-	-	×	-
	Standard Inverter	-	×	-	×
Transmission cycle		125 μs, 250 μs, 500 μs, 1ms			

Contact Information

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Yokogawa Electric Corporation

Leading Edge Controller (with MECHATROLINK-III Interface)

Features

FA-M3V is the result of a quest for high performance and advances functionality. FA-M3R features minimum scan time of 100μs and is faster than microcomputer boards.
F3NC97-0N Positioning Module supports MECHATROLINK-III, an open field network standard designed for high-speed motion control, and is the No.1 choice for configuring a system involving many controlled axes.

- The module implements position control for up to 15 axes from a single slot. It can be networked with servo drives, servomotors and other external equipment using fewer cables terminated with easy-toattach connectors, contributing to lower wiring cost.
- High transmission rate of 100 Mbps and short cycle time of 0.25, 0.5, or 1 ms for 4-, 8-, or 15-axis control respectively enable shorter control cycle, faster startup, better control performance, shorter tact time, and higher productivity.
- Statuses (target position, current position, speed, torque and other statuses) for up to 8 axes can be read concurrently for better monitoring of external equipment operation.
- Control by transmitted commands enables full exploitation of motor performance (high speed and high resolution) to achieve fast and accurate position control.



Positioning Module F3NC97-0N
(with MECHATROLINK-III Interface)

Specifications

Item		Specifications
Interface		MECHATROLINK-III compliant
Physical layer		Ethernet
Transmission rate		100Mbps
Cycle time/ no. of stations		0.25 ms for 4 axes, 0.5 ms for 8 axes or 1.0 ms for 15 axes
Transmission byte		16, 32, 48, or 64 bytes (mixed usage allowed)
Communication method		Cyclic communication
Network Topology		Cascade or star
Transmission media		Ethernet STP Cat5e (dedicated cable)
Max. transmission distance		100 m (between stations)
Min. distance between stations		0.2m
Supported profiles		• Standard servo profile • Standard I/O profile
Positioning functions	Position reference	−2,147,483,648 to 2,147,483,647 (reference unit)
	Functions	• Independent axis movement using standard servo profile commands (availability dependent on connected external equipment and supported standard servo profile commands) • Linear interpolation movement (starting and stopping multiple axes simultaneously) and speed/target position change during movement
	Others	• Status monitoring of external equipment (target position, current position, speed, and torque) • Reading and writing of parameters of external equipment • Input from and output to external equipment using standard I/O profile commands

MECHATROLINK specifications

		M-III			
		16-byte	32-byte	48-byte	64-byte
Profile	Standard servo	-	×	×	-
	Standard I/O	×	×	×	×
	Standard Stepping Motor Drivers	-	×	×	-
	Standard Inverter	-	×	-	×
Transmission cycle		250 μs, 500 μs, 1ms, 2ms			

Contact Information

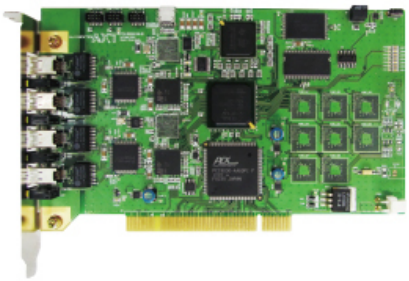
Yokogawa Electric Corporation
2-9-32, Nakacho, Musashino-shi, Tokyo 180-8750, Japan
TEL : +81-422-52-5616
FAX : +81-422-52-9802
E-mail : fam3global@csv.yokogawa.co.jp
URL : http://www.yokogawa.com

AJINEXTEK CO., LTD

PCI Master Controller PCI-R6200-MLIII

Features

- MECHATROLINK-III Master PCI Baord
- Max. 62 axes control (Async)
- Support Fixed postion move, jog, signal dection, velocity/postion override move, 2 to 4 axes liner & 2 axes arc interpolation, continuous interpolation and 3 axes helical interpolation
- Automatic generation of trapezoid, S-curve velocity profile
- Support firmware upgrade
- Provide EzSoftware RM software



PCI-R6200-MLIII

Specifications

Item	Specifications
Communication port	4 port (Up to 16 salves can be installed on each port)
Max. Number of nodes	62
Network Topology	Cascade, Start, Point to Point, Start & Cascade mix
Support profiles	Standard servo profiles, Standard I/O profiles
Indicator	LINK LED×4 (each PORT), ERROR LED×2 (each NET)
Connector	Industrial mini Connector×4
Bus Interface	PCI 2.2, Memory Access, 32bit
Power supply	DC 5V/1.5A
Operating temperature / Humidity	0°C to 60° C / Humidity Below 80%
Exterior dimension of product	174.63 (W) mm×106.00 (L) mm (Standard PCI Half size)

MECHATROLINK specifications

		M-III			
		16-byte	32-byte	48-byte	64-byte
Profile	Standard servo	-	×	×	-
	Standard I/O	×	×	×	×
	Standard Stepping Motor Drivers	-	-	-	-
	Standard Inverter	-	-	-	-
Transmission cycle		0.5ms to 4ms			

Contact Information

AJINEXTEK CO., LTD

Headquarter	27, Seongseogongdan-ro 11-gil, Dalseo-gu, Daegu 704-240 Korea	TEL : +82-53-593-3700	FAX : +82-53-593-3703
China Branch	Korea Business Developmemtn Center-Shanghai Tower A21F 85 LoushanguanRd, Chang Ning Distric, Shanghai, CHINA	TEL : +86-159-0078-3698	
Jungbu Branch	402 Taesan Building, 11-10, Dujeonggo 6-gil, Seobuk-gu, Cheonan-si, Chungnam 331-964 Korea	TEL : +82-41-555-9771	FAX : +82-41-555-9773
Kyeongin Branch	#1703~1705 A, 17, Gosan-ro, 148beon-gil, Gunpo-si, Gyeonggi-do, Korea	TEL : +82-31-360-2182	FAX : +82-31-360-2183

COMIZOA

COMI-LX530 (MECHATROLINK-III)

Features

- PCI based Motion control board for YASKAWA's Field Network, MECHATORLINK-III
- Synchronized control of maximum 16 axes
- Transfer Speed: 100Mbps (Ethernet Physical Layer technology)
- Control Interval: 1ms
- Machine I/O: LTC, EMG, ORG, EL, ALM
- Isolation of between Machine I/O and MECHATROLINK-III Communication line



COMI-LX530 (MECHATROLINK-III)

Specifications

Item	Specifications
Control Method	Motion control with MECHATROLINK-III using position, speed, and torque references Absolute Encoder.
Number of Controlled Axes	16 axes max.
Applicable Servo Drivers	In YASKAWA's Servo Driver Σ-V Series (SGDV) SGDV-□□□□21□ (Rotational Servo Driver) and SGDV-□□□□25□ (Linear Servo Driver)
Motion Commands	Positioning, linear interpolation, circular interpolation, zero-point return, skip, spline interpolation, helical interpolation
Speed Profile	Trapezoidal / S-Curve / Constant Acceleration & Deceleration profile.
Single Axes Motion Function	Jog Move Point to Point motion
Interpolation Feed Speed	Linear interpolation (max. 16axes) Circular interpolation (max. 2axes) Spline interpolation Helical interpolation
Override Function	Speed & Position Override
Functions call elapsed time (avr.)	100μs or less
Advanced Motion	List Motion using memory registers.

MECHATROLINK specifications

		M-III			
		16-byte	32-byte	48-byte	64-byte
Profile	Standard servo	-	×	-	-
	Standard I/O	-	-	-	-
	Standard Stepping Motor Drivers	-	-	-	-
	Standard Inverter	-	-	-	-
Transmission cycle		0.5s, to 1ms			

Contact Information

COMIZOA

Head Office	314, Techno 2-ro, Yuseong-gu, Daejeon, Republic of Korea (대전광역시 유성구 테크노 2 로 314)	TEL : +82-42-936-6500	FAX : +82-42-936-6507
COMIZOA Shanghai Co., Ltd.	Podium Building Room 219, 2nd Floor, San Lu Road #3279, Minhang District, Shanghai CHINA 中国上海市闵行区三鲁公路3279号裙楼2楼219室 (201112)	TEL : +86-21-5170-1597	FAX : +86-21-5170-1599

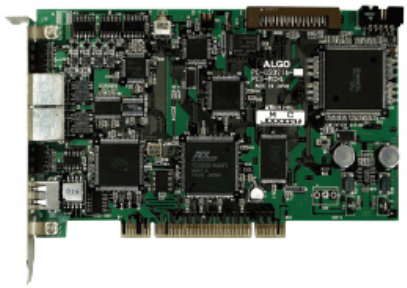
E-mail : sales@comizoa.com
URL : http://www.comizoa.co.kr/
Mobile : +86-1590-2188-309

ALGOSYSTEM CO.,LTD.

A-LINK V2.0 + MECHATROLINK- II
Dual-field-bus-master PCI Board

Features

- The both of A-Link and MECHATROLINK-II capabilities fabricated on a half-hight PCI board.
- Further less-wiring in equipment.
- Distributed High-speed Control
  - allows 2016 I/O points maximum with 0.96ms high speed scanning on A-Link and 16-axis with 2ms or 30-axis 4ms control on MECHATROLINK- II simultaneously.
- Just a board can control maximum 30 axes servo-driver units or manage maximum 15 axes independent linear interpolation motion, positioning and changing speed/destination after moving (except interpolated axis).
- Embedding bundled software makes it possible to realize applications easier on PC platforms.



PCILM01-0

Specifications

Network	A-Link	MECHATROLINK- II
Transmission Speed	6 or 12 Mbps	10 Mbps
Maximum Transmission Length	200 m (6 Mbps) or 100 m (12 Mbps) - extension available with HUB	50 m - 50 m maximum with repeater
Available Nodes	63 slave nodes maximum	15 slave nodes max. or 30 max. with repeater
Connection (Transmission Cable)	Multi-drop type (pulse transformer isolated) – specific shielded cable (i.e. shielded Ethernet cable equal or more than category-3)	Multi-drop type (pulse transformer isolated) – MECHATROLINK- II specific cable (i.e. shielded and twisted-pair cable with characteristic impedance 130 ohm)
Maximum I/O points	2016 points (1008 for input and 1008 for output)	N/A
Transmission Cycle-time	Full-duplex: 0.955 ms / 2016 points (63 nodes / 12 Mbps) Half-duplex: 1.859 ms / 2016 points (63 nodes / 12 Mbps)	1 ms (LT or EQ 6 axes), 2 ms (7-16 axes), 4 ms (17-30 axes) Note: repeater required for 15 or more axes.

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	-	×	-
	Stepping Motor Drivers	-	-	-
	Intelligent I/O	-	-	-
	Simple I/O	-	-	-
	Inverter	-	-	-
Transmission cycle			1ms, 2ms, 4ms	

Contact Information

ALGOSYSTEM CO., LTD.
656 Kobirao, Mihara-ku, Sakai, Osaka 587-0021, Japan TEL : +81-72-362-5067 FAX : +81-72-362-4856
URL : http://www.algosystem.co.jp

LSIS Co., Ltd

XGT PLC Motion control module

Features

Motion control module adopting MECHATROLINK- II
• Transmission speed : 10Mbps
• Transmission : 1ms/1.5ms/2ms
Enhanced performance of motion synchronization
• Perfect synchronization of Max. 16 axes
• High-speed synchronous motion control by synchronizing execution period of application with transmission period of network.
Efficient system
• Wiring reduction with motion control system via network
• Enhanced stability and efficiency of system through absolute coordinate operation
Multi-function engineering tool→ M16M software package
• Providing various function from system design to maintenance
• Automatic setting of communication & servo parameter by 'Self-Configuration'



XGF-M16M

Specifications

Item		Specifications
Control performance	Control axis	Moiton: 6 axes/1ms, MOV: 16 axes/2ms
	Data transmission time	9 axes/1 port (M II −1ms), 15 axes/1 port (M II −1.5ms) 16 axes/1 port (M II −2ms), 15 axes/1 port (M II −17byte −1ms)
Max. number of control axis		16 axis
Max. transmission distance		50m
Count range		Signed 32 Bit (−2,147,483,648 to 2,147,483,647)
Scan time setting		1.0 to 32.0ms (Unit: 0.5ms)
Memory capacity	RAM	32MB (SDRAM) // 512kB (SRAM)
	FLASH	8MB (Firm 2MB/User 6MB)
	User Memory	6MB
Data Trace		128kW (32kW × 4Gr)
Program language	Motion language	No. of program: 256, No. of command: about 70, No. of simultaneous execution: 16
Memory backup		FLASH
Engineering port		RS-232C × 1

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	×	×	×
	Stepping Motor Drivers	-	-	-
	Intelligent I/O	×	×	×
	Simple I/O	×	×	×
	Inverter	×	×	×
Transmission cycle		1ms, 1.5ms, 2ms		

Contact Information

LSIS Co., Ltd
Yonsei Jaedan Severance Bldg., 84-11, Namdaemunno 5-ga, Jung-gu, Seoul 100-753, Korea
TEL : +82-2-2034-4872
FAX : +82-2-2034-4713
URL : http://www.lsis.com/

OMRON Corporation

SYSMAC CS/CJ Series Position Control Units

CJ1W-NCF71, CS1W- NCF71

Features

- Control up to 16 aces with one Unit.
- Make the most of motor performance: No upper limit to speed command to Servo Driver because communications are used.
- Use direct operation to directly specify the target position and target speed from the PLC's CPU Unit.
- Perform speed control or torque control, or switch between speed and torque control.
- Supports motors with absolute encoders.
- Set and monitor Servo Driver parameters from the PLC's CPU Unit.



CJ1W-NCF71　　CS1W-NCF71

Specifications

Item	Specifications
Control method	MECHATROLINK-Ⅱ Position commands, Speed commands, Torque commands
Number of control axis	16 axes max.
Controlled drivers	OMRON W-series Servo Drivers R88D-WN□□□-ML (built-in MECHATROLINK-Ⅱ communications) R88D-WT□□□+MECHATROLINK-Ⅱ Interface Unit
Maximum position command value	−2147483648 to 2147483647 command units Command unit: Depends on electronic gear setting in Servo parameters.
Control functions	Servo lock/unlock, position control, establishing the origin, jogging, interrupt feeding, speed control, torque control, stop functions, acceleration/ deceleration curves, torque limit, overrides, servo parameter transfers, monitoring, software limits, and backlash compensation

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	-	-	×
	Stepping Motor Drivers	-	-	-
	Intelligent I/O	-	-	-
	Simple I/O	-	-	-
	Inverter	-	-	-
Transmission cycle				0.25 ms, 0.5 ms, 1 to 8 ms (See note.)

Note: User can set communications cycle to 0.25 ms or 0.5 ms, or to 1 to8 ms in increments of 1 ms-

Contact Information

OMRON Corporation

Drive Div.	Shiokoji Horikawa, Shimogyo-ku, Kyoto, 600-8530 Japan	TEL : +81-75-344-7233	FAX : +81-75-344-7107
Regional H.Q. OMRON EUROPE B.V.	Wegalaan 67-69, NL-2132 JD Hoofddorf, The Netherlands	TEL : +31-2356-81-300	FAX : +31-2356-81-388
OMRON ELECTRONICS LLC	1 East Commerce Drive Schaumburg, IL 60173 U.S.A	TEL : +1-847-843-7900	FAX : +1-847-843-8568
OMRON ASIA PACIFIC PTE. LTD.	83 Clemenceau Avenue, #11-01, UE Square, Singapore 239920	TEL : +65-6835-3011	FAX : +65-6835-2711
OMRON (CHINA) CO., LTD.	Room 2211, Bank of China Tower, 200 Yin Cheng Zhong Road, PuDong New Area, Shanghai, 200120 China	TEL : +86-21-5037-2222	FAX : +86-21-5037-2200

URL : http://www.omron.com/

KOYO ELECTRONICS INDUSTRIES CO., LTD.

MECHATROLINK MODULE for DL06 series

D0-MLINK

Features

- Achieved the motion control function using the small size PLC.
- Enabled DL06 to be used as a motion controller. (Scheduling to execute by DL05)
- By installing D0-MLINK, it is possible to connect easily with various actuators ; such as the servo motor and the stepping motors as well as I/O equipment. In addition, the motion system for the wiring-saving can be constructed.
- Positioning of seven independent axes can be executed with DL06. (DL05 is scheduled to execute up to two independent axes.)
- Only setting the parameter in the data register of PLC, high accuracy positioning can be achieved easily and at low cost.



D0-MLINK

Specifications

Item	Specifications
Function	MECHATROLINK Master
Control method	MECHATROLINK-Ⅰ ：4Mbps MECHATROLINK-Ⅱ ：10Mbps
Number of Axis to control	DL06：7axes DL05：2axes (Being scheduled)
Transmission distance	The maximum total extension 50m Minimum distance between stations 0.5m
Data transmission method	Transmitting / receiving the data through the data register. Transmission: Setting the data by the ladder program. (command to each axis) Receiving: D0-MLINK sets the status of each axis in the data register.
Number of stations to connect	DL06: Up to seven slave stations DL05: Up to two slave stations. (Being scheduled)

MECHATROLINK Specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	×	×	×
	Stepping Motor Drivers	×	×	×
	Intelligent I/O	-	-	-
	Simple I/O	-	-	-
	Inverter	-	-	-
Transmission cycle		2ms	2ms	2ms

Contact Information

Koyo Electronics Industries Co., Ltd.
OVERSEAS SALES Dept. 1-171, Tenjin-cho, Kodaira, Tokyo 187-0004, Japan TEL : +81-42-341-7711 FAX : +81-42-342-6871
URL : http://www.koyoele.co.jp

KOYO ELECTRONICS INDUSTRIES CO., LTD.

MECHATROLINK MODULE for DL205 series

D2-MLINK

Features

- Achieved the motion control function by the small PLC.
- By installing D2-MLINK, it is possible to connect easily with various actuators ; such as the servo motor and the stepping motors. In addition, D2- MLINK offers wiring-saving motion system.
- 15 axes can be support per one module.
- 4 modules can be installed on one system.
- Supported Straight line interpolation and Circle interpolation
- Easy operation by only setting the parameter in the data memory of PLC.
- It corresponds to various control exibly supported by many command of MECHATROLINK.
- System performance will be up if D2-265 CPU used.



D2-MLINK

Specifications

Item	Specifications
Function	MECHATROLINK-Ⅱ Master
Number of Axis to control	15 axis per module, maximum 60 axis (with four D2-MLINKs)
Maximum command value	-2,147,483,647 to +2,147,483,647
Maximum velocity value	-40,000,000 to 40,000,000
Accel/decel type	Asymmetric trapezoid or S curve
Accel/decel time	1 to 60,000ms
Emergency stop time	1 to 60,000ms
Programming language	Ladder
Command type	Absolute or incremental
Motion control functions	PTP positioning, Liner / circular interpolation, constant rate of feeding (Include an limited position axis), Zero pointiting serch, Interrupt constant rate of feeding, Velocity control, Torque control

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	-	-	×
	Stepping Motor Drivers	-	-	×
	Intelligent I/O	-	-	-
	Simple I/O	-	-	-
	Inverter	-	-	-
Transmission cycle			1 to 8ms (Synchronus)	

Contact Information

Koyo Electronics Industries Co., Ltd.
OVERSEAS SALES Dept. 1-171, Tenjin-cho, Kodaira, Tokyo 187-0004, Japan TEL : +81-42-341-7711 FAX : +81-42-342-6871
URL : http://www.koyoele.co.jp

TECHNO CO., LTD.

PLC Motion Controller

Features

It is a motion controller with built-in PLC (FA-M3 made of Yokogawa Electric Corporation). It is a standalone type, and it controls NC and robot without the load of the ladder.It integrates the exact motion functions such as multi axes interpolation, synchronous control, contouring and electronic cam.It is possible to connect with PC easily, and the operation is possible from EXCEL and VB software by DLL application.It can be operated from the PLC ladder, then PC/PLC/MC operate jointly.Moreover, one PLC can easily do the line controls of the transportation, the processing, assembly, and the inspection, etc. by the parallel run of PLMC.



PLMC-MⅡEX

Application examples

Multi axes control, Robot control (Scalar, link and parallel), Semiconductor manufacturing equipment, High-speed press (Servo press and Feeder), Machining, Grinding, Bending, Cutting (Glass, Cloth, Rubber and metal), Spooling machine, Electronic cam, Handling machine, DNC processing machine, Metal processing machine, Optical forming, Transportation machine and Packaging machine

Specifications

Item	Specifications
Number of controlled axes	Standard: 4 or 9 axes (Exclusive: 15 axes)
Axis control functions	Spindle (SPIN), Same command for 2 axes (Parallel axes), Tangent control, Rotary axis surroundings processing (Infinity rotation), Flexible electronic cam, Axis unit system conversion, Sensor latch, and Diameter command (Lathe specification)
Accel./decel. control	Linear type, Exponential type and S character type
Axis command	Positioning, Linear interpolation, Circular interpolation, Helical interpolation, Point positioning, Torque command and Independent multi axes control
IO command	Output ON/OFF, M code, and Input judgment
Other command	Timer, JMP, and Logical origin setting
Coordinate system	Logical coordinates and Machine coordinates
Contouring	Path operation (No stop between blocks), Continuous operation of minute interpolations and Form compensation
Compensation functions	BL compensation, PE compensation, Tool length/Tool diameter compensation
Network	Ethernet connection (By way of PLC)
PC communication	DLL connection (By way of PLC), Standard operation software and DLL
Ladder operation	It instructs and controls all functionses of PLMC from the ladder.
A large amount of data	Dynamic data loading (PLC)
Operation language	G code, Techno code, Subprogram and Times specification CALL
Operation	Manual operation, Memory operation, teaching and DNC operation (PC/PLC)
Multitasking	Mastering, Slave, Reset, Background, EXIT and Alarm
Macro-function	Variable, Arithmetic operation, and Condition judgment
Input processing (By way of PLC)	Emergency stop, ONSW, Origin (Each axis), Logical origin setting, General purpose inputs (Ri0-48), Handle palser axis selection, Handle palser magnification, Override function, Operation mode, Effective/invalid of panel, Axis operation (Bit/code specification), and Program selection
M-Ⅱ input	Servo alarm and Over travel (Each axis)
Output control (By way of PLC)	SVM (Servo main power supply), ALARM, INPOS, READY, RUN, PAUSE, PRDY, MODE 0-2 (Mode output), Spindle control, General purpose outputs (Ro0-63)
M-Ⅱ output	Servo ON (Each axis) and Servo reset (Each axis)
Operation panel (By way of PLC)	Various automatic/manual operations and Override
Axis operation analysis	Time series loging of multi axes
Exclusive use	Coordinates conversion (Link and parallel) and Others
MECHATROLINK connection	Σ servo, MYVIS (Image processing system), Spindle inverter

MECHATROLINK specifications

		M-Ⅰ	M-Ⅱ	
		17-byte	17-byte	32-byte
Command	Servo	-	×	×
	Stepping Motor Drivers	-	-	-
	Intelligent I/O	-	-	-
	Simple I/O	-	-	-
	Inverter	-	-	-
Transmission cycle			0.5ms to 4ms	

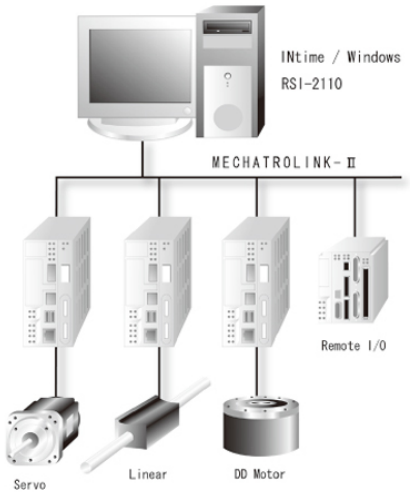
Contact Information

TECHNO CO., LTD.
1304-5 Shimofujisawa, Iruma, Saitama, 358-0011 Japan
TEL : +81-4-2964-3677
FAX : +81-4-2964-3322
E-mail : mail@open-mc.com
URL : http://www.open-mc.com

Micronet Co.

RSI-2110 (MECHATROLINK-II driver for INtime)

Features



RSI-2110 is a driver software for INtime (Real-time extension for Windows) of the motion controller (MP2110/MP2110M) made by YASKAWA.
MP2110/MP2110M are the motion controller built-in the PCI/Compact PCI bus of the host computer. It can control the drive equipment and the I/O equipment at high speed via MECHATROLINK-Ⅱ network.

- Super-high precision and advanced high-speed motion control Controlling position, speed and torque with high accuracy of synchronization are capable with the MECHATROLINK-Ⅱ network. Online switching of control mode is available and complex machine behaviour can be realized.
- Powerful motion-control functions
  More than 40 of motion-control APIs in C language help users to create an application program.
- Hight extendibility
  MP2110 can control maximum 21 stations whereas MP2110M can do maximum 42. It is flexible to choose out the stations and decide how many axes to use for servo or I/O.
- Work on INtime (Realtime OS)
  By combination with INtime, a deterministic hard-realtime capability is capable on a personal computer system.

Specifications

Item	Specifications	
	MP2110	MP2110M
FieldNetwork	MECHATROLINK-Ⅰ/MECHATROLINK-Ⅱ	
Channels	1	2
Number of control axis	each 21 channels (Servo axis or I/O)	
Control performance	Each cannnel 6 axes/0.5ms (Communication cycle) 15 axes/1ms (Communication cycle) 21 axes/2ms (Communication cycle)	
Local DIO	Digital Input 5 channels, Digital Output 4 channels	
Connectable equipment	Servo, Linear, DDmotor, Inverter, other various I/O	

MECHATROLINK specifications

		M-I	M-II	
		17-byte	17-byte	32-byte
Command	Servo	×	×	×
	Stepping Motor Drivers	×	×	×
	Intelligent I/O	×	×	×
	Simple I/O	×	×	×
	Inverter	×	×	×
Transmission cycle		2ms	0.5ms, 1ms, 2ms	

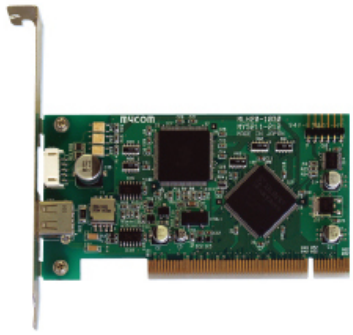
Contact Information

MYCOM, INC.

PCI-bus Host controller board MLH20-1030

Features

- Available to control up to maximum 30 modules corresponding to MECHATROLINK-Ⅱ.
  One controller board can control maximum 30 modules such as stepping motor and servomotor corresponding to MECHATROLINK-Ⅱ.
- Wiring saving is available.
  Complicated wring is unnecessary. Low cost and simple system construction are available.
- One package control of modules corresponding to MECHATROLINK-Ⅱ is available.
  Available to Control parameter, motion program and so on by one package.
- Device driver+DLL (VisualC++) and driving sample software (optional) are prepared.
  Available to control maximum 2 boards.



MLH20-1030

Specifications

Item	specifications	
Bus specification	PCI Bus	
Communication type	MECHATROLINK-Ⅱ conformity	
Control target	Device corresponding to MECHATROLINK-Ⅰ/Ⅱ	
Numbers of control module	Maximum 30 modules	
External I/F	MECHATROLINK-Ⅱ communication port	1 ch.
	2 Inputs (Start, Emergency stop)	Input circuit: Photo coupler Control capacity: Less than 10mA at most, External input power DC24V use
	1 Output (RDY)	Output circuit: Photo coupler Control capacity: Less than 10mA at most, External Output power DC24V use
PC side source for use.	Memory space	Occupies 256 byte (100H) from base address assigned by PCI configuration.
	I/O space	Occupies 4 byte (04H) from base address assigned by PCI configuration.
	Interrupt I/F	Uses one IRQ assigned by PCI configuration.
Power	Bus logic power	+5VDC ±1.0A or less
	Power for sensor I/F	+24VDC (supplied externally) 0.1A or less
Board size	64.0mm (H) × 120.0mm (W) × 20.0mm (D)	
Mass	55 g	

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	×	×	×
	Stepping Motor Drivers	×	×	×
	Intelligent I/O	×	×	×
	Simple I/O	×	×	×
	Inverter	×	×	×
Transmission cycle		2ms	0.5ms to 8ms (each 0.5ms setting)	

Contact Information

MYCOM, INC.

Head Office	1-29, Ohara, Goryo, Nishikyo, Kyoto 651-8245, Japan	TEL : +81-75-382-1580	FAX : +81-75-382-1570
Tokyo Office	1-8 Suda-cho, kanda, Chiyoda-ku, Tokyo 101-0047, Japan	TEL : +81-3-3251-5415	FAX : +81-3-3251-5485
Sigapore		TEL : +65-6743-4476	FAX : +65-6743-4576
Taiwan		TEL : +886-2-2778-9021	FAX : +886-2-2778-9750

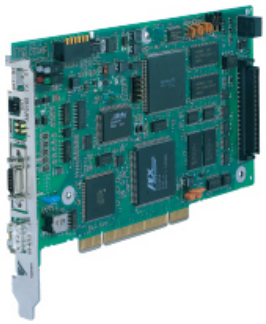
E-mail : support@mycom-japan.co.jp
URL : http://www.mycom-japan.co.jp/

YASKAWA ELECTRIC CORPORATION

Board-type Machine Controller MP2100, MP2100M

Features

- The MP2100 machine controller is half the size of a standard PCI board. It completely blends motion control with sequence control.
  Simply mount the plug-and-play MP2100 board in a PC, and it is ready for high-speed communications. Total support from design to maintenance is also available.
- The MP2100M has the same specifications as the MP2100 except that it contains a board that has functions similar to the SVB-01 module.
  Models:
  JAPMC-MC2100 (MP2100), JAPMC-MC2140 (MP2100M)



MP2100, MP2100M

Specifications

Item	Specifications
Control Method	Motion control with MECHATROLINK-Ⅰ or-Ⅱ using position, speed, and torque references.
Number of Controlled Axes	MP2100 : 16 axes max. MP2100M : 32 axes max.
Applicable Servo Drivers	MECHATROLINK-Ⅰ : SERVOPACKs in the SGD-□□□N, SGDB-□□, SGDS, or SGDH series with a JUSP-NS110 or JUSP-NS115 application module. MECHATROLINK-Ⅱ : SERVOPACKs in the SGDS or SGDH series with a JUSP-NS115 application module.
Reference Unit Minimum Setting	1, 0.1, 0.01, 0.001, 0.0001, 0.00001 (Units: mm, inch, deg, pulse, μm)
Max. Programmable Value	−2147483648 to 2147483647 pulses (signed 32-bit value). Unlimited feeding is also available.
Motion Commands	Positioning, linear interpolation, circular interpolation, zero-point return, skip, set time positioning, and external positioning.
Fast-forward Speed	1 to 2147483647 [Reference Units/min]
Interpolation Feed Speed	1 to 2147483647 [Reference Units/min]
Override Function	0.01% to 327.67% (Positioning: by axis; Interpolation: by group)
Acceleration/Deceleration Control	Linear, asymmetric, S-curve, and index.

MECHATROLINK specifications

		M-Ⅰ	M-Ⅱ	
		17-byte	17-byte	32-byte
Command	Servo	×	×	×
	Stepping Motor Drivers	×	×	×
	Intelligent I/O	×	×	×
	Simple I/O	×	×	×
	Inverter	×	×	×
Transmission cycle		2ms	MP2100 : 1ms, 1.5ms, 2ms MP2100M : 0.5ms, 1ms, 1.5ms, 2ms	

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
YASKAWA has sales and after-sales service all around the world.
America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

YASKAWA ELECTRIC CORPORATION

Board-type Machine Controller MP2110, MP2110CP, MP2110M, MP2110MCP

Features

- MP2110 and MP2110CP machine controllers provide improved throughput from host computers to servomotors.
  The MP2110 has a half-size PCI bus and the MP2110CP has a 3U Compact PCI bus. Attain high-speed motion and I/O control of connected devices from the host computer.
  The shared memory has been publicly disclosed, so the host computer is not limited to running any one operating system (OS).
- With a two-channel MECHATROLINK port, the processing speed of the MP2110M and MP2110MCP machine controllers is twice that of the MP2110 machine controllers.
  Models:
  JAPMC-MC2110 (MP2110), JAPMC-MC2130 (MP2110M)
  JAPMC-MC2150 (MP2110CP), JAPMC-MC2170 (MP2110MCP)



MP2110, MP2110CP
MP2110M, MP2110MCP

Specifications

Item	Specifications
Control Method	Motion control with MECHATROLINK-Ⅰ or -Ⅱ using position, speed, and torque references.
Number of Controlled Axes	MP2110CP : 21 axes max. MP2110MCP : 42 axes max.
Applicable Servo Drivers	MECHATROLINK-Ⅰ : SERVOPACKs in the SGDS or SGDH series with a JUSP-NS115 or JUSP-NS100 application module. MECHATROLINK-Ⅱ : SERVOPACKs in the SGDV, SGDS, or SGDH series with JUSP-NS115 application module.
Reference Unit Minimum Setting	1=1 reference unit
Max. Programmable Value	-2147483648 to 2147483647 pulses (signed 32-bit value)
Operating System	MECHATROLINK mode/command mode: Any OS can be used. APi mode: RTLinux (Model: CPMC-MPA710) RTX (Model: CPMC-MPA711) INtime (Model: CPMC-MPA713) Windows Driver (Model: CPMC-MPA712T1)
Fast-forward Speed	1 to 131068000 [reference unit/s]
Interpolation Feed Speed	1 to 65535999 [reference unit/s]
Acceleration/Deceleration Control	Linear, asymmetric, S-curve, and index.

MECHATROLINK specifications

		M-Ⅰ	M-Ⅱ	
		17-byte	17-byte	32-byte
Command	Servo	×	×	×
	Stepping Motor Drivers	×	×	×
	Intelligent I/O	×	×	×
	Simple I/O	×	×	×
	Inverter	×	×	×
Transmission cycle		2ms	0.5ms, 1ms, 2ms	

Contact Information

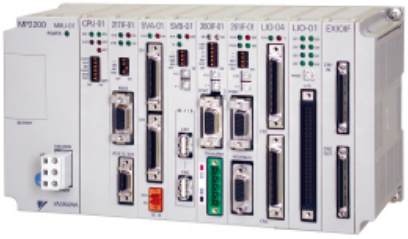
Please access YASKAWA website (Please click. Then you can access.)
YASKAWA has sales and after-sales service all around the world.
America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

YASKAWA ELECTRIC CORPORATION

Flexible Machine Controller MP2200

Features

- The MP2200 can be greatly expanded. 9 optional modules can be mounted in one rack and 4 racks can be connected.
- The CPU modules for the MP2200 can be used to realize a highspeed, motion-control cycle of 0.5 ms and control of 256 axes.
  Models:
  [Base Units]
  JEPMC-BU2200 (85 VAC to 276 VAC)
  JEPMC-BU2210 (24 VDC ± 20%)
  [CPU Modules (indispensable)]
  JAPMC-CP2200 (Memory: 7.5Mbytes)
  JAPMC-CP2210
  (USB port × 1, Compact Flash card slot × 1, Memory: 11.5Mbytes)



MP2200

Specifications

Item	Specifications
Control Method	Motion control with MECHATROLINK-Ⅰ or -Ⅱ using position, speed, and torque references.
Number of Controlled Axes	MECHATROLINK-Ⅰ : 14 axes max. MECHATROLINK-Ⅱ : 16 axes max. (when one SVB-01 module is mounted), and 256 axes max. (when sixteen SVB-01 modules are mounted)
Applicable Servo Drivers	MECHATROLINK-Ⅰ : SERVOPACKs in the SGD-□□□N, SGDB-□□, SGDS, or SGDH series with a JUSP-NS110 or JUSP-NS115 application module. MECHATROLINK-Ⅱ : SERVOPACKs in the SGDS or SGDH series with a JUSP-NS115 application module.
Reference Unit Minimum Setting	1, 0.1, 0.01, 0.001, 0.0001, 0.00001 (Units: mm, inch, deg, pulse, μm)
Max. Programmable Value	-2147483648 to 2147483647 pulses (signed 32-bit value). Unlimited feeding is also available.
Motion Commands	Positioning, linear interpolation, circular interpolation, zero-point return, skip, set time positioning, and external positioning.
Fast-forward Speed	1 to 2147483647 [Reference Units/min]
Interpolation Feed Speed	1 to 2147483647 [Reference Units/min]
Override Function	0.01% to 327.67% (Positioning: by axis; Interpolation: by group)
Acceleration/Deceleration Control	Linear, asymmetric, S-curve, and index.

MECHATROLINK specifications

		M-Ⅰ	M-Ⅱ	
		17-byte	17-byte	32-byte
Command	Servo	×	×	×
	Stepping Motor Drivers	×	×	×
	Intelligent I/O	×	×	×
	Simple I/O	×	×	×
	Inverter	×	×	×
Transmission cycle		2ms	0.5ms, 1ms, 1.5ms, 2ms	

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
YASKAWA has sales and after-sales service all around the world.
America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

YASKAWA ELECTRIC CORPORATION

All-in-one Machine Controller MP2300

Features

- The MP2300 is an all-in-one machine controller. It has three slots for other modules and a basic module whose standard functions include those of a CPU module, an SVB module, and an I/O module.
- The CPU can be used to control 48 axes (when two SVB-01 modules are mounted).
- Most modules used with the MP2200 controller can be mounted in the MP2300 empty slots.
  Model:JEPMC-MP2300-□□□

  Note: The alphanumeric character indicated by the square, (□), varies in accordance with the combination of modules mounted in the empty slots.



MP2300

Specifications

Item	Specifications
Control Method	Motion control with MECHATROLINK-Ⅰ or -Ⅱ using position, speed, and torque references.
Number of Controlled Axes	MECHATROLINK-Ⅰ : 14 axes max. MECHATROLINK-Ⅱ : 16 axes max. (when only a basic module is mounted), and 48 axes max. (when two SVB-01 modules are mounted)
Applicable Servo Drivers	MECHATROLINK-Ⅰ : SERVOPACKs in the SGD-□□□N, SGDB-□□, SGDS, or SGDH series with a JUSP-NS100 or JUSP-NS115 application module. MECHATROLINK-Ⅱ : SERVOPACKs in the SGDS or SGDH series with a JUSP-NS115 application module.
Reference Unit Minimum Setting	1, 0.1, 0.01, 0.001, 0.0001, 0.00001 (Units: mm, inch, deg, pulse, μm)
Max. Programmable Value	-2147483648 to 2147483647 pulses (signed 32-bit value). Unlimited feeding is also available.
Motion Commands	Positioning, linear interpolation, circular interpolation, zero-point return, skip, set time positioning, and external positioning.
Fast-forward Speed	1 to 2147483647 [Reference Units/min]
Interpolation Feed Speed	1 to 2147483647 [Reference Units/min]
Override Function	0.001 to 327.67% (Positioning: by axis; Interpolation: by group)
Acceleration/Deceleration Control	Linear, asymmetric, S-curve

MECHATROLINK specifications

		M-Ⅰ	M-Ⅱ	
		17-byte	17-byte	32-byte
Command	Servo	×	×	×
	Stepping Motor Drivers	×	×	×
	Intelligent I/O	×	×	×
	Simple I/O	×	×	×
	Inverter	×	×	×
Transmission cycle		2ms	0.5ms, 1ms, 1.5ms, 2ms	

Contact Information

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YASKAWA has sales and after-sales service all around the world.
America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

YASKAWA ELECTRIC CORPORATION

Compact All-in-one Machine Controller MP2300S

Features

- The MP2300S is a compact all-in-one machine controller. It has one empty slot to add another module and also a basic module whose standard functions include those of a CPU module, an SVB module, and an Ethernet (100 BASE-TX) module.
- The MP2300S controller can control 32 axes when an SVB-01 module is mounted.
- A synchronous distributed system for synchronous control of slave CPUs can be constructed with MECHATROLINK.
- Most modules used with the MP2200 controller can also be mounted in the MP2300S empty slot.
  Model: JEPMC-MP2300S-E



MP2300S

Specifications

Item	Specifications
Control Method	Motion control with MECHATROLINK-Ⅰ or Ⅱ using position, speed, and torque references
Number of Controlled Axes	MECHATROLINK-Ⅰ : 14 axes max. MECHATROLINK-Ⅱ : 16 axes max. (when only a basic module is mounted), and 32 axes max. (when one SVB-01 module is mounted)
Applicable Servo Drivers	MECHATROLINK-Ⅰ : SERVOPACKs in the SGD-□□□N, SGDB-□□, SGDS, or SGDH series with a JUSP-NS115 or JUSP-NS100 application module MECHATROLINK-Ⅱ : SERVOPACKs in the SGDS or SGDH series with a JUSP-NS115 application module, and SERVOPACKs in the SJDE-□□AN□ series
Reference Unit Minimum Setting	1, 0.1, 0.01, 0.001, 0.0001, 0.00001 (Units: mm, inch, deg, pulse, μm)
Max. Programmable Value	-2147483648 to 2147483647 pulses (signed 32-bit value). Unlimited feeding is also available.
Motion Commands	Positioning, linear interpolation, circular interpolation, zero-point return, skip, set time positioning, and external positioning
Fast-forward Speed	1 to 2147483647 [Reference Units/min]
Interpolation Feed Speed	1 to 2147483647 [Reference Units/min]
Override Function	0.01% to 327.67% (Positioning: by axis; Interpolation: by group)
Acceleration/Deceleration Control	Linear, asymmetric, and S-curve

MECHATROLINK specifications

		M-Ⅰ	M-Ⅱ	
		17-byte	17-byte	32-byte
Command	Servo	×	×	×
	Stepping Motor Drivers	×	×	×
	Intelligent I/O	×	×	×
	Simple I/O	×	×	×
	Inverter	×	×	×
Transmission cycle		2ms	0.5ms, 1ms, 1.5ms, 2ms	

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
YASKAWA has sales and after-sales service all around the world.
America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

YASKAWA ELECTRIC CORPORATION

Compact Machine Controller MP2400

Features

- The MP2400 is a compact machine controller. It has the functions of a CPU module, an SVB module, and an Ethernet (100 BASE-TX) module.
- The MP2400 controller can control 16 axes.
- Easy to program with a text editor for sequence control and motion control.
  Model: JEPMC-MP2400-E



MP2400

Specifications

Item	Specifications
Control Method	Motion control with MECHATROLINK-Ⅰ or Ⅱ using position, speed, and torque references
Number of Controlled Axes	MECHATROLINK-Ⅰ : 14 axes max. MECHATROLINK-Ⅱ : 16 axes max.
Applicable Servo Drivers	MECHATROLINK-Ⅰ : SERVOPACKs in the SGD-□□□N, SGDB-□□, SGDS, or SGDH series with a JUSP-NS115 or JUSP-NS100 application module MECHATROLINK-Ⅱ : SERVOPACKs in the SGDS or SGDH series with a JUSP-NS115 application module, and SERVOPACKs in the SJDE-□□AN□ series
Reference Unit Minimum Setting	1, 0.1, 0.01, 0.001, 0.0001, 0.00001 (Units: mm, inch, deg, pulse, μm)
Max. Programmable Value	-2147483648 to 2147483647pulses (signed 32-bit value). Unlimited feeding is also available.
Motion Commands	Positioning, linear interpolation, circular interpolation, zero-point return, skip, set time positioning, and external positioning
Fast-forward Speed	1 to 2147483647 [Reference Units/min]
Interpolation Feed Speed	1 to 2147483647 [Reference Units/min]
Override Function	0.01% to 327.67% (Positioning: by axis; Interpolation: by group)
Acceleration/Deceleration Control	Linear, asymmetric, and S-curve

MECHATROLINK specifications

		M-Ⅰ	M-Ⅱ	
		17-byte	17-byte	32-byte
Command	Servo	×	×	×
	Stepping Motor Drivers	×	×	×
	Intelligent I/O	×	×	×
	Simple I/O	×	×	×
	Inverter	×	×	×
Transmission cycle		2ms	0.5ms, 1ms, 1.5ms, 2ms	

Contact Information

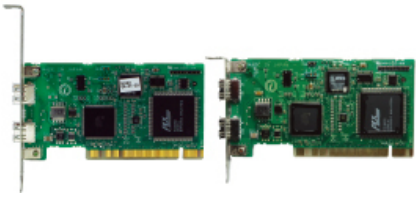
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YASKAWA ELECTRIC CORPORATION

PCI Standard MECHATROLINK- II
Interface Card JAPMC-NT110, JAPMC-NT111

Features

When this board is installed in a PCI Standard PC, it allows MECHATROLINK communication. Applying this board to the MECHATROLINK Communication Port reduces the board development work for the Master of MECHATROLINK. Standard PCI type (NT110) and Low Profile PCI type (NT111) boards are available. (Main PC boards are the same for both NT110 and NT111.)



JAPMC-NT110 JAPMC-NT111

Specifications

Item	Specifications
Product name	PCI bus applied MECHATROLINK Communication Interface Card
Dimensions (mm)	Board part: 120.81 × 64.41, Face plate: 21.4 × 121(NT110), 22.0 × 80.2 (NT111)
Bus	PCI bus
Power voltage	5VDC ± 5%
Baud rate	4Mbps (MECHATROLINK-Ⅰ), 10Mbps (MECHATROLINK-Ⅱ)
No. of MECHATROLINK channels	1
No. of connecting stations	MECHATROLINK-Ⅰ : 14 stations max., MECHATROLINK-Ⅱ : 30 stations Note: Max. number of stations varies with each host application.
Host OS	1. RTX64 2014, RTX64 3.0 or later (Model: CPMC-NTA700) 2. Windows7/8/8.1/10 (only applicable to asynchronous communication command) (Model: CPMC-NTA701) 3. INtime5.2, INtime6.3 (Model: CPMC-NTA702)

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	×	×	×
	Stepping Motor Drivers	×	×	×
	Intelligent I/O	×	×	×
	Simple I/O	×	×	×
	Inverter	×	×	×
Transmission cycle		2ms	0.25 to 8ms	

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
YASKAWA has sales and after-sales service all around the world.
America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

Yokogawa Electric Corporation

Leading Edge Controller (with MECHATROLINK-II Interface)

Features

FA-M3V is the result of a quest for high performance and advances functionality. FA-M3R features minimum scan time of 100μs and is faster than microcomputer boards.
F3NC96-0N Positioning Module supports MECHATROLINK-Ⅱ, an open field network standard designed for high-speed motion control, and is the No.1 choice for configuring a system involving many controlled axes.

- Occupying a single slot of the base module, the module can control up to 15 axes (motors), and can be easily connected to motors using connectors, requiring minimal wiring time and cost.
- A high baud rate of 10 Mbps supports a short cycle time of 1 ms per set of 8 axes, which means quicker response and better synchronization with peripheral devices.
- Command transmission enables maximum utilization of motor performance (high speed and resolution) to achieve fast and accurate positioning control.



Positioning Module F3NC96-0N
(with MECHATROLINK-Ⅱ Interface)

Specifications

Item		Specifications
Interface		MECHATROLINK-Ⅱ compliant
Transmission rate		10Mbps
Transmission byte		32 bytes
Cycle time/ no. of stations		1.0 ms for up to 8 axes, 2.0 ms for up to 15 axes (user selectable)
Network Topology		Bus (multi-drop)
Communication method		Master/slave synchronous
Transmission media		2-wire shielded twisted pair cable (proprietary cable)
Max. transmission distance		50 m (total length)
Min. distance between stations		0.5m
Positioning functions	Position reference	−2,147,483,648 to 2,147,483,647 (reference unit)
	Functions	• Linear interpolation movement (starting and stopping multiple axes simultaneously) • Independent axis movement using MECHATROLINK-Ⅱ commands (dependant on connected external equipment and supported MECHATROLINK-Ⅱ commands)
	Others	• Reading of statuses (target position, current position, etc.) of external equipment • Reading and writing of parameters of external equipment

MECHATROLINK specifications

		M-I	M-II	
		17-byte	17-byte	32-byte
Command	Servo	-	-	×
	Stepping Motor Drivers	-	-	×
	Intelligent I/O	-	-	-
	Simple I/O	-	-	-
	Inverter	-	-	-
Transmission cycle				1ms, 2ms

Contact Information

Yokogawa Electric Corporation
2-9-32, Nakacho, Musashino-shi, Tokyo 180-8750, Japan TEL : +81-422-52-5616 FAX : +81-422-52-9802
E-mail : fam3global@csv.yokogawa.co.jp
URL : http://www.yokogawa.com

Advantech-Lnc Technology CO., Ltd.

LNC-M600id System

Features

- With Yaskawa MECHATROLINK- II high speed configuration, LNC-M600id offers you high speed, easy wiring, broadband, and anti-noise intelligent processing functions for your machines to work on different materials.
- Brand new LNC-M600id can use M- II high speed line to connect with other relating devices, users can monitor and adjust servo parameters via controller screen, meanwhile users can also check each axes' alarm and loading.
- Equipped with intelligent cutting functions, Users can optimize relating process parameters according to different materials, such as steel, aluminum, wood or copper. (acceleration/deceleration time, corner speed, servo gain, etc.)



LNC-M600id

Specifications

Item	Specifications
Monitor	10.4-inch TFT LCD
Memory / CF Card	64M Bytes / Industrial 64M Bytes or above
Control axes	4 Axes M- II servo axes + 3 axes M- II servo spindle / 4 Axes M- II servo axes + 1 axis variable-frequency spindle or electric spindle
MPG	3 in 1 MPG
Standard I/O	20 INPUT / 16 OUTPUT
Expansion I/O	REMOTE 1/2 (Max. 256 INPUT / 256 OUTPUT)
Multi-blocks Look Ahead	600 Single Blocks
Serial Communication	RS-232C: 1 PORT
USB	Offer USB / CF Card Interface, hot plugging: 1 PORT
LAN	Ethernet: 1 PORT
OP	MDIOP-8500 (Also offer customized design type)

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	-	x	x
	Stepping Motor Drivers	-	-	-
	Intelligent I/O	-	-	-
	Simple I/O	-	-	-
	Inverter	-	-	-
Transmission cycle			3ms, 4ms	

Contact Information

Advantech-Lnc Technology CO., Ltd.
Headquarters 40764 6F., No.633, Sec. 2, Taiwan Blvd., Xitun Dist., Taichung City 407, Taiwan (R.O.C.) TEL : +886-4-24636889 FAX : +886-4-24635558
E-mail : Service@Advantech-Lnc.com.tw
URL : http://www.advantech-lnc.com/

ESA/GV s.r.l.

KVARA 6

Features

The “numerical control” is the very heart of the range of products offered by Esa/G.v. for automation purposes. It represents the cutting edge of Esa/G.v.'s pluriennal experience in various application sectors: it's the answer to the requirements of our present and future customers.
Various optionals can be added to its powerful and versatile basic structure in order to form the hardware and software composition that suits your particular needs.



KVARA 6

Specifications

Item	Specifications
Programmable logic controller	• PLC integrated in the CNC • PLC programs stored on Flash memory • Programming and debugging through a PC • Symbolic, structured and parametric programming, links to C/C ++ functions • Programmable scanning time, use of several PLCs in the same CNC • Back-up and restore functions via USB or serial port
ISO interpreter	• ISO multichannel interpreter (max 32 channels) • Standard ISO language • Extended automation language • Interpolation algorithm able to drive axes with different characteristics • Electronic cammes, electrical shaft, gantry axes, cut on fly • Jerk control and limitation, look-ahead, synchronized axes, on/off axes with and without inverter • Hold, Repos, Retrace interactive functions available • Overstore function to restore part program status after an Hold • M, T, D and S functions customizable and linked to xed cycles • Customizing of advanced trajectories generator (i.e. warp engine)
Development kit	• The development aids, as the simulation and debugging packages, can run on a PC • Standard Esa/G.v. Software available; easy links to OEM Software • Several graphic tools are available for customizing the Graphic User Interface • Digital oscilloscope with 4 traces, log and capture functions
General specifications	• 24Vac/dc 100W max single-phase power supply • Integrated PLC, ISO interpreter • DNC capabilities, PLC and axes Watch-dog
Axes	• Standard 4 axes, max 6 axes; 5V or 12V incremental encoder inputs, single ended o line-driver, maximum input frequency 500Khz • Analog +/—10V outputs for servos • SERCOS, MECHATROLINK and CAN-BUS (canopen protocol) communication board
Inputs/Outputs	• 32 digital PNP optoinsulated inputs (24Vdc), protected against wrong connection • 32 digital optoinsulated outputs (24Vdc 1A), protected against short circuit • 2 analog inputs and 2 analog outputs (8 bits resolution) • 4 fast digital inputs (via interrupt)
Communication ports	• 2 serial ports RS-232 • 1 USB 2.0 port • Opticfiber fast communication port (optional) • Panel Link to communicate with kvara B, BP, FPT240, FMC (optional) • SERCOS, MECHATROLINK and CAN-BUS (canopen protocol) communication board
Options	• 2 axes board • 32 + 32 digital inputs and outputs board • 4 analog outputs, 8 analog inputs, 2 current outputs • I/O ring communication board • Optic fiber fast communication board • SERCOS, MECHATROLINK and CAN-BUS (canopen protocol) communication board • Silicon Disk (flash disk)

Contact Information

Esa/G.v. s.r.l.
15 via Zamboni - c.p. 43 41011 Campogalliano MO - Italy TEL : +39-059-851414 FAX : +39-059-851313
E-mail : info@esagv.it
URL : http://www.esagv.it

Guangzhou LokShun CNC Equipment Ltd.,

Controller SGDS9-6CNCH2

Features

- CPU processing speed, support for floating-point operations and greatly enhance the movement interpolation calculation speed and accuracy.
- System supports 5-axis control, 3-axis joint linking, it can conduct a variety of two-dimensional and three-dimensional complex processing.
- Fast-moving axis 48m/min, control accuracy of 10um.
- System, communication interface universal, using the network interface technology for the transmission of NC code, and through the network interface technology can facilitate the achievement of workshop equipment, unified management and on-line diagnostics
- System supports the common memory (U disk, SD / CF cards) direct-reading function.
- PLC control system support, user-friendly workshop to achieve automated production.



SGDS9-6CNCH2

Specifications

Item	Specifications
Control method	Motion control by MECHATROLINK-Ⅱ (Position, Velocity, Torque)
Number of control axis	6-axis
Control Servo Drivers	MECHATROLINK-Ⅱ ; SGDS series, SGDH series+JUSP-NS115; SGDV series.
Minimum Control Unit	0.00001, 0.000001, 0.0001 (unit: mm, inch, deg)
Interpolation	Linear, Circular, Helical, Thread Milling
Control Mode	Closed Loop Control, Using the serial high speed raster ruler for feed back.
G0 Rapid Feed Rate	120m/min
G1 Cutting Feed Rate	60m/min
Programme Transmission	USB, Ethernet
Display Unit	12.1 inch TFT

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	-	×	-
	Stepping Motor Drivers	-	-	-
	Intelligent I/O	-	-	-
	Simple I/O	-	-	-
	Inverter	-	-	-
Transmission cycle			0.25ms	

Contact Information

Guangzhou LokShun CNC Equipment Ltd.,
No.16, dongxi road, xilang, Liwan District, Guanzhou. CHINA TEL : +86-20-81617181

ISAC S.r.l.

CNC 2001M

Features

The CNC 2001M is a Machine Controller with small dimension and great features, innovative and reliable.
It controls up 12 axes and can be inserted in a network in order to control up to 36 axes.
It offers the most common standard communication interfaces (PS/2, parallel, serial RS-232, USB, Ethernet 10/100 Mb/s), LVDS or VGA for the display connection, and CANopen interface for I/O devices.
It includes a powerful and easily programmable PLC with libraries and tools to accomplish most all the needs. The Remote Machine Interface software allows remote PCs to manage the CNC and program and debug the PLC.



CNC 2001M

Specifications

Item	Specifications
Control method	Motion control by MECHATROLINK- Ⅰ or - Ⅱ (Position, Velocity)
Number of control axis	12 axes (up to 36 axes in CNC network)
Control Servo Drivers	MECHATROLINK- Ⅰ ; SGD-□□□N series, SGDB-□□AN series, SGDS series, SGDM series SGDH series + JUSP-NS115/NS110 /NS001, MECHATROLINK- Ⅱ ; SGDS series, SGDH series+JUSP-NS115
Unit (minimum control unit)	1, 0.1, 0.01, 0.001, 0.0001 (unit: mm, inch, deg, pulse)
Maximum command value	−2147483648 to 2147483647pulse (32bit with sign) unlimited feed also possible
Motion program functions	Positioning through Interpolation or in independent axis by axis way. Linear, Circular, Helical and Tabular Interpolation. Zero point search cycle: freely con gurable and with height memorizing at switching off. Control of axes with clamps and brakes, up to three electronic hand-wheels and compensation. Electric gear. Following sunchronization. Electric CAM.
Rapid traverse feed rate	1 to 2147483647 [command unit/min]
Interpolation traverse feed rate	1 to 2147483647 [command unit/min]
Override	0 to 255 % (command unit 1%, possible to set by axis or task)
Accel/Decel control	Accel, Decel tim: Maximum 60.000ms (trapezoid or S curve), S curve

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	×	×	×
	Stepping Motor Drivers	-	-	-
	Intelligent I/O	-	-	-
	Simple I/O	-	-	-
	Inverter	-	-	-
Transmission cycle		2ms	1ms, 1.5ms, 2ms	

Contact Information

ISAC S.r.l.
Via Maestri del Lavoro, 30 - 56021 Cascina (PI), Italy TEL : +39-050-711131 FAX : +39-050-711472
E-mail : info@isacsrl.it
URL : http://www.isacsrl.eu/

Manufacturing Data Systems, Inc.

CNC machine controller, HMI FlashCNC

Features

A compact, rugged CNC or motion controller based on MDSI's OpenCNC®, WinMotion®, or Grinder.
Supports MECHATROLINK servos and I/O.
Pentium IV-class processor.
Windows XP® Embedded on CompactFlash® card.
Optional Windows XP® Pro on high-reliability hard disk drive.



FlashCNC

Specifications

Item	Specifications
Control method	MECHATROLINK-Ⅰ or -Ⅱ (Position, Velocity, Torque)
Number of control axis	up to 8 axes
Control Servo Drivers	MECHATROLINK-Ⅰ ; SGD-□□□N series, SGDB-□□AN series, SGDS series, SGDH series +JUSP-NS115 or JUSP-NS110, MECHATROLINK-Ⅱ ; SGDS series, SGDH series +JUSP-NS115
Unit (minimum control unit)	1, 0.1, 0.01, 0.001, 0.0001 (unit: mm, inch, deg, pulse)
Maximum command value	−2147483648 to 2147483647pulse (32bit with sign) unlimited feed also possible
Motion program functions	Positioning, Liner Interpolation, Circular Interpolation, Zero point search, Interruption feed, Time constance positioning, Traverse function, Electric CAM, Synchronous electric CAM, Line action, Electric gear, Following synchronization, Velocity command, Torque command
Rapid traverse feed rate	1 to 2147483647 [command unit/min]
Interpolation traverse feed rate	1 to 2147483647 [command unit/min]
Override	0.00 to 327.67% (command unit: 0.01%, possible to set by axis or task)
Accel/Decel control	Accel, Decel tim: Maximum 60.000ms (trapezoid or S curve), S curve Constance: Maximum 30.000ms

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	×	×	-
	Stepping Motor Drivers	-	-	-
	Intelligent I/O	-	-	-
	Simple I/O	-	-	-
	Inverter	-	-	-
Transmission cycle		2ms	1ms to 2ms	

Contact Information

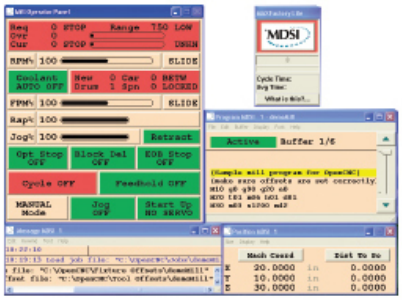
Manufacturing Data Systems, Inc.
U.S.A. 3885 Research Park Drive Suite A, Ann Arbor, MI 48108 TEL : +1-888-OpenCNC (673-6262)
Brazil Pca. Pe. Manoel da Nobrega, 21 16° andar, 01015-010 Sao Paulo - SP, Brazil TEL : +55-11-3104-7100
URL : http://www.mdsi2.com/

Manufacturing Data Systems, Inc.

CNC machine controller, HMI OpenCNC

Features

OpenCNC® software is a production-proven, unbundled, software CNC that has logged millions of hours since 1993.
Unlike traditional CNC controls, OpenCNC® software requires no proprietary hardware or motion control cards. Combining a soft CNC, soft PLC and HMI in one application, OpenCNC's open, modular, all-software architecture provides robust CNC control, connectivity to MAXIMUM Factory and easy integration of thirdparty software. MDSI customers have increased productivity, streamlined manufacturing processes, reduced machine tool control costs, and extended the productive life of their machine tools.



OpenCNC

Specifications

Item	Specifications
Control method	MECHATROLINK- Ⅰ or - Ⅱ (Position, Velocity, Torque)
Number of control axis	up to 8 axes
Control Servo Drivers	MECHATROLINK- Ⅰ ; SGD-□□□N series, SGDB-□□AN series, SGDS series, SGDH series +JUSP-NS115 or JUSP-NS110, MECHATROLINK- Ⅱ ; SGDS series, SGDH series +JUSP-NS115
Unit (minimum control unit)	0.00001, 0.000001, 0.0001(unit: mm,inch,deg)
Maximum command value	−2147483648 to 2147483647pulse (32bit with sign) unlimited feed also possible
Motion program functions	Positioning, Liner Interpolation, Circular Interpolation, Zero point search, Interruption feed, Time constance positioning, Traverse function, Electric CAM, Synchronous electric CAM, Line action, Electric gear, Following synchronization, Velocity command, Torque command
Rapid traverse feed rate	1 to 2147483647 [command unit/min]
Interpolation traverse feed rate	1 to 2147483647 [command unit/min]
Override	0.00 to 327.67% (command unit: 0.01%, possible to set by axis or task)
Accel/Decel control	Accel, Decel tim: Maximum 60.000ms (trapezoid or S curve), S curve Constance: Maximum 30.000ms

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	×	×	-
	Stepping Motor Drivers	-	-	-
	Intelligent I/O	-	-	-
	Simple I/O	-	-	-
	Inverter	-	-	-
Transmission cycle		2ms	1ms to 2ms	

Contact Information

Manufacturing Data Systems, Inc.
U.S.A. 3885 Research Park Drive Suite A, Ann Arbor, MI 48108 TEL : +1-888-OpenCNC (673-6262)
Brazil Pca. Pe. Manoel da Nobrega, 21 16° andar, 01015-010 Sao Paulo - SP, Brazil TEL : +55-11-3104-7100
URL : http://www.mdsi2.com/

Prima Electro S.p.A.

10/S CNC BLACK BOX

Features

OSAI 10/510 Light CNC is an open-architecture CNC with integrated PLC, based on a real-time operating system, fully customizable at machine code level.
The 10/510 Light Can manage Multi-channel and Multi-control architectures, controlling up to 30 axes and 20 processes, with advanced CNC features.
Its network-based Operator Interface, executed in MS-Windows? environment is fully customisable by the Machine Tool Builder.
OSAI WinMedia range of intelligent Operator Panels, is the most appropriate user interface, an high specification Panel PC which marks a great visual, tactile and ergonomic innovation of the machine-operator interface concept.



* OSAI is a Brand of PRIMA ELECTRONICS

Specifications

10/510 Light
• 510s: 600 MHz CPU
• 510i: 1 GHz CPU
• Black box configuration or interfaced with Panel PC
• Hard Disk unit or Silicon Disk Mass Memory, granting unlimited Part-Program size
• Axes Options: MECHATROLINK-1 (2 channels, 30 axes max), Analogue or OS-Wire Digital interface
• Fieldbus Options: CANOpen, Interbus or OS-Wire Digital Interface
• ISO Standard Programming Language, Special Instruction super-set (Asset Language)
• Up to 20 individual processes, Axes can be transferred between Processes
• Advanced control of dynamics: high speed algorithms, non linear acceleration ramps
• Configurable Look-ahead (up to 124 blocks)
• Sophisticated Tool Center Point for 5 axes machines
• Cartesian, Cylindrical, Polynomial Interpolation, 3D plan rotation and translation
• Multi-block retrace, Return on the Profile, Master Slave and Gantry Axes, Multi-axes Electronic Camming

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	×	-	—
	Stepping Motor Drivers	-	-	-
	Intelligent I/O	-	-	-
	Simple I/O	-	-	-
	Inverter	-	-	-
Transmission cycle		2ms, 4ms		

Contact Information

Prima Electro S.p.A.
Sales & Marketing HQ Via Torino 14 - 10010 Barone C.se (TO) - Italy TEL : +39-0119899711 FAX : +39-011-9899808
E-mail : sales-OSIA@primaelectronics.com
URL : http://www.primaelectro.com/

Shenyang Golding NC Tech. Co. Ltd.

CNC System

Features

GJ-210 is a high-performance CNC system, can be used to control lathe, miller and machining center:

- Open architecture based on IPC
- Congfigurable HMI with 10.4 inch TFT LCD, supporting realtime display of tool path
- High-performance motion control function, supporting lookahead, multiple kinds of nonlinear compensation, etc
- Embedded PLC, supporting debug ladder online
- Standard ISO G code language, supporting parameters programming
- Tool management functions, such as tool life, tool compensation and random ATC management



GJ-210

Specifications

Item	Specifications
Control method	Motion control by MECHATROLINK-Ⅱ (Position)
Number of control axis	4 axes, maximum 5 axes
Control Servo Drivers	MECHATROLINK-Ⅱ; SGDS series, SGDH series +JUSP-NS115
Unit (minimum control unit)	0.0001,0.0001 (unit: mm,deg)
Maximum command value	−2147483648 to 2147483647 pulses (signed 32-bit data) unlimited feed also possible
Motion program functions	Positioning, Liner Interpolation, Circular Interpolation, Zero point search, Time constance positioning, Line action, Electric gear, Following synchronization, Velocity command, Torque command, Small segment continuously processing function
Rapid traverse feed rate	1 to 2147483647 [command unit/min]
Interpolation traverse feed rate	1 to 2147483647 [command unit/min]
Override	0.00 to 327.67% (command unit0.01%, possible to set by axis or task)
Accel/Decel control	Accel, Decel tim: Maximum 60.000ms (trapezoid, exponential and S curve), S curve Constance: Maximum 30.000ms

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	-	×	×
	Stepping Motor Drivers	-	-	-
	Intelligent I/O	-	-	-
	Simple I/O	-	-	-
	Inverter	-	-	-
Transmission cycle			2ms	1ms, 1.5ms, 2ms

Contact Information

Shenyang Golding NC Tech. Co. Ltd.
No.16, East Nanping Road, Hunnan High-tech. Industrial Development Zone, Shenyang, 110171 PRC
TEL : +86-24-2469-6018
FAX : +86-24-2469-6000
URL : http://golding.sict.ac.cn

OMRON Europe B.V.

The advanced motion controller that puts you in control

Features

Trajexia is Omron's new motion platform that offers you the performance of a dedicated motion system, the ease of use you get from an automation specialist and the peace of mind you have from a global player.

- Each axis can run complex interpolation moves, e-cams and egearboxes
- Advanced debugging tools including trace and oscilloscope functions
- Multi-tasking controller capable of running up to 14 tasks simultaneously
- Control of servos, inverters and I/Os over a single motion network
- Open-Ethernet built-in, PROFIBUS-DP and Devicenet as options



Trajexia MC16

Specifications

Item	Specifications
Control method	Motion control (Position, Velocity, Torque) by (1) MECHATROLINK-Ⅱ (TJ1-ML16 module) & (2) Analog output or Pulse train (TJ1-FL02 module)
Number of control axis	16 servo axes + 8 inverters
Control Servo Drivers	MECHATROLINK-Ⅱ ; SGDS series, SGDH series + JUSP-NS115, SJDE-**ANA
Unit (minimum control unit)	32 bit IEEE Floating Point (User de ned engineering units)
Maximum command value	32 bit IEEE Floating Point (User de ned engineering units)
Motion program functions	Positioning, Liner Interpolation, Circular Interpolation, Zero point search, Interruption feed, Time constance positioning, Traverse function, Electric CAM, Synchronus electric CAM, Line action, Electric gear, Following synchronization, Velocity command, Torque command
Number of MECHATROLINK-Ⅱ master units	Up to 4 MECHATROLINK-Ⅱ master units TJ1-ML16 can be connected
Total cycle time	Selectable 0.5 ms, 1 ms or 2 ms
Multi-tasking	Up to 14 tasks running simultaneously
Digital I/O	16 Inputs and 8 Outputs freely configurable
Measurement units	User definable
Available memory for user programs	500KB
Data storage capacity	Up to 2 MB flash data storage
Communication ports	1 Ethernet port and 2 serial ports
Firmware update	Via Trajexia software tool

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	-	-	×
	Stepping Motor Drivers	-	-	-
	Intelligent I/O	-	-	-
	Simple I/O	-	-	-
	Inverter	-	-	-
Transmission cycle				0.5ms, 1ms, 2ms

Contact Information

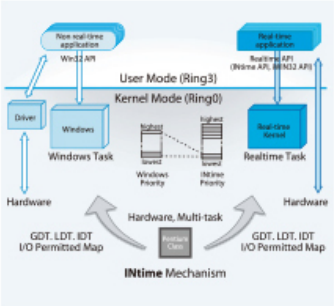
OMRON Europe B.V.
Wegalaan 67-69, NL-2132 JD, Hoofddorp, The Netherlands TEL : +31-0-23-568-13-00
E-mail : www.omron-industrial.com
URL : https://industrial.omron.eu/en/products/trajexia

Micronet Co.

Real-time OS INtime

Features

INtime is real-time OS and works with Windows OS (XP/Xpe/2000) on a same PC hardware. It is possible to connect a standard PC hardware to MECHATROLINK device and have both highperformance real-time control by INtime and easy man-machine interface by Windows OS at the same time.



Specifications

Item	Specifications
Priority Levels	0 (the highest) to 255 (the lowest)
Kernel Tick	One of: 100, 200, 250, 500 microsec, 1, 2, 5, 10ms
Round Robin Scheduling	Corresponding priority threshold level is adjustable from 10ms to 100ms.
Mail Box	FIFO type /Priority type
Semaphores	FIFO type /Priority type
Segments	1 byte to 4 Giga bytes
Interruption	Handler and thread structure. IRQ sharing is available. APIC compatible.
Developing Environment	Microsoft Visual Studio 6.0/2005/2008
Debugger	Spider debugger (Standard kit), Microsoft VisualStudio.NET
Real-time Network	Real-time TCP/IP, UDP/IP (Standard kit). Socket APIs.
Max of Objects	8192
MECHATROLINK I/F	Driver for MP2110

Contact Information

Micronet Co.
3-8-11 Horiwari, Kamisu-shi,Ibaraki 314-0135, Japan TEL : +81-299-90-1733 FAX : +81-299-92-8557
E-mail : efg@mnc.co.jp
URL : https://www.mnc.co.jp

YASKAWA ELECTRIC CORPORATION

AC Servo Drives Σ-X-Series Σ-XS Models with MECHATROLINK-4/III Communications References

Features

- Speed frequency response: 3.5 kHz (previously 3.1 kHz). Maximum motor rotation speed: 7000 min-1.
- Standard equipped with a 26-bit high-resolution (approx. 67 million pulses per revolution) encoder to allow for high-precision microfabrication and path control.
- Minimum transfer cycle: 31.25 μs (MECHATROLINK-4)
- Load fluctuation compensation control reduces variations in settling time even when the load fluctuates to ensure stable operation.
- Stable operation with loads up to 100 times that of a normal load is made possible with Yaskawa's proprietary tuning-less function.
- With Σ-LINK II, motion and sensor data on the same time base can be collected, and changes in the equipment can be monitored to detect abnormalities.



Σ-XS

Specifications

Item		Specifications
		Σ-XS (SGDXS) (Single Axis)
Performance		Speed frequency characteristics: 3.5 kHz
MECHATROLINK Communications	Operating Specifications	Position, speed, or torque control with MECHATROLINK-4/III communications
	Reference Methods	MECHATROLINK-4/III commands (sequence, motion, data setting, data access, monitoring, adjustment, etc.)
Applicable Motor Capacity		11 W to 15 kW
Encoder Resolution		26 bits: Absolute encoder or batteryless absolute encoder (50 W to 15 kW) 20 bits: Absolute encoder (11 W to 33 W)
Input Signal	Channels	7 Channels. Each signal can be allocated and the positive and negative logic can be changed.
	Functions	Forward drive prohibition, reverse drive prohibition, forward current limit, reverse current limit, external latch signal, origin return deceleration switch signal, forced stop
Output Signals	Channels	3 Channels. Each signal can be allocated and the positive and negative logic can be changed.
	Functions	Positioning completion, speed coincidence detection, rotation detection, servo ready, torque limit detection, speed limit detection, holding brake, positioning near
Protective Functions		Overcurrent, overvoltage, undervoltage, overload, regeneration error, etc.
Additional Functions with Option Modules		Fully-closed modules
Standards		UL standards, CE Marking (EMC Directive, Low Voltage Directive), RoHS Directive, safety standards, KC Mark
Safety Functions	Applicable Standards	ISO13849-1 PLe (Category 3) and IEC61508 SIL3 Input: /HWBB1 and /HWBB2: Base block signals for power modules. Output: EDM1: Monitors the status of built-in safety circuit (fixed output)
SERVOPACK Installation		Base-mounted installation (optional rack-mounted models are available)

MECHATROLINK specifications

		M-4	M-III
		16～80 byte	32, 48 byte
Number of Transmission Bytes	Servo	○	○
Transmission Cycle		0.0625 ms to 4 ms	0.125 ms to 4 ms

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
YASKAWA has sales and after-sales service all around the world.
America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

YASKAWA ELECTRIC CORPORATION

AC Servo Drives Σ-X-Series Σ-XW Models (Two Axes) with MECHATROLINK-4/III Communications References

Features



- Speed frequency response: 3.5 kHz (previously 3.1 kHz). Maximum motor rotation speed: 7000 min-1.
- Standard equipped with a 26-bit high-resolution (approx. 67 million pulses per revolution) encoder to allow for high-precision microfabrication and path control.
- Minimum transfer cycle: 32.25 μs (MECHATROLINK-4)
- Stable operation with loads up to 100 times that of a normal load is made possible with Yaskawa's proprietary tuning-less function.
- With Σ-LINK II, motion and sensor data on the same time base can be collected, and changes in the equipment can be monitored to detect abnormalities.

Specifications

Item		Specifications
		Σ-XW Model (Two Axes)
Performance		Speed frequency characteristics: 3.5 kHz
MECHATROLINK Communications	Performance	Position, speed, or torque control with MECHATROLINK-4/III communications
	Reference Methods	MECHATROLINK-4/III commands (sequence, motion, data setting, data access, monitoring, adjustment, etc.)
Applicable Motor Capacity		200 W to 1 kW
Encoder Resolution		26 bits (Absolute encoder or batteryless absolute encoder)
Input Signal	Channels	12 Channels. Each signal can be allocated and the positive and negative logic can be changed.
	Function	Forward drive prohibition, reverse drive prohibition, forward current limit, reverse current limit, external latch signal, origin return deceleration switch signal, forced stop input signal
Output Signals	Channels	5 Channels. Each signal can be allocated and the positive and negative logic can be changed.
	Function	Positioning completion, speed coincidence detection, rotation detection, servo ready, torque limit detection, speed limit detection, holding brake, positioning near
Protective Functions		Overcurrent, overvoltage, undervoltage, overload, regeneration error, etc.
Additional Functions with Option Modules		None
Standards		UL standards, CE Marking (EMC Directive, Low Voltage Directive), safety standards, RoHS Directive, KC Mark
SERVOPACK Installation		Base-mounted installation (optional rack-mounted models are available)

MECHATROLINK specifications

		M-4	M-III
		16 Bytes to 80 Bytes	32 Bytes or 48 Bytes
Number of Transmission Bytes	Servo	○	○
Transmission Cycle		0.0625 ms to 4 ms	0.125 ms to 4 ms

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
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America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic,

KEYENCE CORPORATION

AC servo system SV2 Series

Features

- Response delays for commands can be reduced to the utmost by speed response frequency of 2.6 kHz.
- Synchronization of communication cycles (125 μs) with the host controller make high-speed, high accuracy operation possible.
- Due to significantly higher accuracy with 22-bit encoder resolution
- Incorporated analog feedback function to ensure the load applied to the work-piece coincides with the target value.
- The 2-stage notch filter is automatically configured, and manually notch filter configurable up to 5-stage.
- Complies with IEC 61800-5-2 (STO), ISO 13849-1 (PLe), and IEC 61508 (SIL3).



SV2 Series

Specifications

Item		Specifications
MECHATROLINK-III communication	Operating specifications	Position control / speed control / torque control via MECHATROLINK-III
	Command input	MECHATROLINK-III command (sequence, motion, monitor, adjustment, etc.)
Compatible motor capacity		50W to 5kW
Performance		Speed frequency response frequency: 2.6kHz, Torque control accuracy (reproducibility:±1%)
Encoder resolution		22bit (Absolute type)
Input signal	Number of inputs	7 (3 high-speed input, 4 general input)
	Function	Forced stop (FSTOP), external latch signals 1 to 3 (EXT1, EXT2, EXT3), origin return deceleration switch (DEC), forward limit switch (LSP), reverse limit switch (LSN), forward torque limit selection (PTL), reverse torque limit selection (NTL) *Full signal assignment, logic-settable
Output signal	Number of outputs	4
	Function	Alarm (ALARM), in position (INPOS), speed matching (VCMP), zero speed detection (ZSP), operation preparation complete (RDY), torque limiting (TLM), speed limiting (VLM), electromagnetic brake timing (BRAKE), warning (WARN), Positioning proximity (NEAR) *Individual signal assignment excluding ALARM signal, logic-settable alarm
Analogue feedback function		Max. input voltage: ±12V, Accuracy: ±1% of F.S. , Resolution: ±12bit
Available option function		Fully closed control (When using fully closed module)
Safety function		IEC61800-5-2(STO), ISO13849-1(PLe), IEC61508(SIL3) Input: Base block signal for power module Output: Built-in safety circuit status monitoring

MECHATROLINK specifications

	M-III
Profile	Standard servo
Data size	32byte, 48byte
Transmission cycle	125μs, 250μs, 500μs, 750μs, 1ms to 4ms (in 0.5ms unit)

Contact Information

KEYENCE CORPORATION
1-3-14, Higashinakajima Higashiyodogawa-ku, Osaka 533-8555, Japan
TEL : +81-6-6379-1271
FAX : +81-6-6379-1270
E-mail : seigyo-qa@keyence.co.jp
URL : http://www.keyence.co.jp

SANYO DENKI CO.,LTD.

SANMOTION R ADVANCED MODEL

Features

- With feed-forward vibration suppression control, vibrations at the processing point and base of a machine can be suppressed through simple tuning procedures.
  Vibration control frequencies are selectable.
- Model-based tracking control enables an improved target response curve, enhanced disturbance suppression, and greater robustness.
- With auto-tuning, servo amplifier automatically optimizes servo gain and filter frequency in realtime.
- Since this model safely shuts down motor torque, safety systems are more easily installed on the equipment. In addition, this model meets requirements for “IEC61508 (SIL2), IEC62061 (SILCL2)” and “ISO13849-1 (Cat.3, PL=d)”



RS2□□□A2M□5

Specifications

Item		Specifications
MECHATROLINK Communications	Control Specifications	Position control, speed control, and torque control via MECHATROLINK-III communications
	Command Type	MECHATROLINK commands for sequence, motion, data writing/reading, monitoring, adjustment, etc.
Applicable Motor Capacity		30 W to 15 kW
Encoder	Resolution	17bit, 20bit
	Type	Battery-less optical absolute encoder, Optical absolute encoder for incremental systems
Input Signals	Number of channels	Interactive photo coupler (sink, source connection) ×6 inputs
	Function	Forward direction limit switch, Reverse direction limit switch, External trip, Forced discharge, Emergency stop.
Output Signals	Number of channels	Photorelay output (sink, source connection) × 2 outputs
	Function	Servo ready, Power ON, Servo ON, Holding brake timing, Torque limiting, Low speed, Velocity attainment, Matching speed, Zero speed, Command acceptable, Status of gain switch, Velocity loop proportional control status, Control mode switchover status, Forward/Reverse direction limit, Reverse OT, Warning, Alarm code (3bits), etc.
Protection functions		Over current, Current detection error, Overload, Regeneration error, Magnetic pole position estimation error, Amplifi er overheating, External overheating, Over voltage, Main circuit power low voltage, Main circuit power supply open phase, Control power supply low voltage, Encoder error, Over speed, Speed control error, Speed feedback error, Excessive position, Position command error, Built-in memory error, Parameter error
Safety standard		UL, CE marking (EMC directive, low voltage directive), Function safety standards (Model with safety function)

MECHATROLINK specifications

	M-III
Profile	Standard servo
Data size	32 / 48 byte
Transmission cycle	0.25 ms to 8 ms

Contact Information

SANYO DENKI CO.,LTD.
3-33-1, Minami-Otsuka, Toshima-ku, Tokyo, 170-8451, Japan TEL : +81-03-5927-1039
E-mail : cs@sanyodenki.com
URL : https://www.sanyodenki.com/

CKD NIKKI DENSO CO., LTD.

AC Servo System VC II series

Features

It corresponds not only to high function direct drive servomotor (DD motor), but it is also able to fit to linear servomotor and synchroneous and induction type AC servomotor to bring out the optimal perfomance of these motors from high response to ultra low speed range.
Funtions to optimaize the motor performance

- Auto notch filter to improve the efficency for the esonance control operation
- 4 kinds of Gain selction functions to choose the suitable gain to match with the load condition
- Effective resonance control filter function to control resonance at the distal end of machine.
- Smooth startup can be done by using the special data edting software with opration function, monitoring, editing, and analysis function



AC servo driver VC II series

DD motor τ DISC series

Specifications

Item		Specifications
MECHATROLINK Conmmunication	Behavioral specification	Position control by MECHATROLINK-III communication
	Command input	MECHATROLINK-III command (Alarm/Warning readout, Interpolation feeding, Positioning, etc.)
Output capacity (Input power source)		50 to 200W (AC100V to 115V 50/60Hz Single phase)
		0.1 to 37kW (AC200V to 230V 50/60Hz 3-phase)
		0.26 to 55kW (AC400 to 460V 50/60Hz 3-phase)
Number of control axes		Single axis
Control input signal	Number of channels	4 points (see “Note”)
	Function	Emergency stop*, Zero point deceleration, Speed over ride, Positive/Negative over travel*
Control output signal	Number of channels	4 points Allocating to each signals (see “Note”)
	Function	Servo ready, Alarm (*), Warning (*), Positioning complete, Speed zero, Torque limiting, Brake release, Soft limit switch, Marker output, Speed/Torque/Rough positioning/Pulse train mode running
Auto tuning functions		Possible to tune for the case with relatively large inertia ratio by parameter setting
Gain selection fuctions		• 4 kinds of gain selection are possible by High-level controller • Capable to correspond to the position loop gain for the Gain selection

Note: The signal with * is Negative logic, and The signal with (*) is possible to for changing logic by the parameters.

MECHATROLINK specifications

	M-III
Profile	Standard servo
Data size	32byte, 48byte
Transmission cycle	0.5ms to 4.0ms

Contact Information

CKD NIKKI DENSO CO., LTD.
Sales Dept. 2-8-24, Arima, Miyamae-ku, Kawasaki-shi, Kanagawa-ken 216-0003 Japan TEL : +81-44-855-4311 FAX : +81-44-856-4831
URL : http://www.nikkidenso.co.jp/en/

YASKAWA ELECTRIC CORPORATION

AC Servo Drives Σ-7-Series SERVOPACKs
Σ-7C Two-Axis SERVOPACKs with Built-in Controller

Features

- Integrating a Two-Axis SERVOPACK and Controller saves 34 mm in width.
- The I/O required for equipment control and an Ethernet port are provided as standard features to allow you to build a small-scale equipment system based around just this one unit (no PLC required).
- Up to six axes can be configured (two internal axes plus four external axes connected via MECHATROLINK-III).
- You can use Σ-7C SERVOPACKs for equipment modularization or for distributed control systems.



Σ-7C

Specifications

Servo Function Module

Item	Specifications
Number of Controlled Axes	2
Capacity	200 W, 400 W, 750 W, 1 kW
I/O Voltage	200 VAC
Response Frequency	3.1 kHz
Servo I/O	12 discrete inputs and 7 discrete outputs
Safety Functions (Optional)	HWBB function (STO)
Reference Method	Position control, speed control, and torque control from built-in Controller (SVD)
Connected Motors	Σ-7-Series Rotary Servomotors, Linear Servomotors, and Direct Drive Servomotors
Analog Monitor	None
Dynamic Brake (DB)	Mounted.
Regenerative Processing	Built-in.
Overtravel (OT) Prevention	DB stop, deceleration to a stop, or coast to a stop for P-OT or N-OT
Protective Functions	Overcurrent, overvoltage, low voltage, overload, regeneration error, etc.
Utility Functions	Gain adjustment, alarm history, jogging, origin search, etc.
Engineering Tool	SigmaWin+ (USB connection and Controller connection)

Controller Function Module

Item		Specifications
Communications interface		Ethernet (100 Mbps)
Scan Time Settings	H Scan	500 µs to 32 ms (in 250-µs increments)
	L Scan	2.0 ms to 200 ms (in 0.5-ms increments)
MECHATROLINK		Built-in MECHATROLINK-III Minimum communications cycle: 125 µs
Applicable Devices		I/O, AC Drives, Servo Drives, and Stepping Motor Drives
Number of Controlled Axes	Built-in SVC	4 axes
	SVD	2 axes
	SVR (virtual axis)	4 axes
	Maximum Number of Controlled Axes	6 axes
USB Interface		Provided (for storage device).
Onboard I/O		16 discrete inputs, 16 discrete outputs, and 1 pulse input channel for Controller
Backup Memory Memory Capacity		Non-volatile memory (No battery required.)
Memory Capacity	Data Tracing	256 Kwords
	Table Data	1 Mbyte
	M Registers	1 Mword
Memory Capacity (Flash Memory)	Program	15 Mbytes
Calendar Backup		EDLC (No external battery required.)
Engineering Tool		MPE720 version 7

MECHATROLINK specifications

		M-III			
		16-byte	32-byte	48-byte	64-byte
Profile	Standard servo	-	-	×	-
	Standard I/O	×	×	×	×
	Standard Stepping Motor Drivers	-	-	×	-
	Standard Inverter	-	×	-	×
Transmission cycle		125µs, 250µs, 500µs, 1ms			

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
YASKAWA has sales and after-sales service all around the world.
America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

YASKAWA ELECTRIC CORPORATION

MECHATROLINK-III Σ-V series AC Servo Drives

Features

- Superlative Performance
  The best amplifier response in the industry slashes settling time. Standard use of high-resolution encoder has enabled high-precision positioning and fine processing.
- Simple Start-up
  New Tuning-less Function
  ——Get up and running quickly after hooking up the motor
  New Advanced Autotuning
  ——Realize optimal machine performance
  New “One-parameter” Tuning
  ——Get the most from your machine
- Outstanding Expandability
  Extensive variety of motors from 50W to 5kW. Support for linear servomotors, direct drive servomotors and linear sliders.
  Wide selection of option module will be released in the future.
  Type: SGDV-□□□□2□□ (□: dependent on a spec.)



Σ-V

Specifications

Item		Specifications
Performance		Speed Frequency Characteristics: 1.6kHz (load condition: load moment of inertia JL=Motor moment of inertia Jm)
		Tolrque control tolerance (repeatability): ±1%
MECHATROLINK Communications	Performance	Position control, speed control, and torque control through MECHATROLINK-III communications
	Command Input	MECHATROLINK commands (for sequence, motion, data setting/reference, monitor, adjustment, and other commands.)
Applicable servo motor capacity		50W to 5kW
Encoder resolution		20-bit (incremental/absolute encoder), 13-bit (only for incremental encoder of SGMJV servomotors)
Input Signals	Number of channels	7ch. Signal alllocations and positive/negative logics can be modified.
	Function	Forward run prohibited, Reverse run prohibited, Forward torque limit, Reverse torque limit, Extaernal latch signal, Homing deceleration switch signal
Output Signals	Number of channels	3ch. Signal alllocations and positive/negative logics can be modified.
	Function	Positioning completion, Speed coincidence detection, Servomotor rotation detection, Servo ready, Torque limit detection, Speed limit detection, Break interlock, Warning, NEAR
Protective Functions		Overcurrent, Overvoltage, Low voltage, Overload, Regeneratio error, Over speed, etc.
Option Module Functions		Serial encoder communication input for fully-closed loop control
Compliant Standards		UL*, CE marking (EMC directive, low voltage directive)*, Safety*, RoHS
Safety Functions		EN954 category 3 Stop category 0, IEC61508 SIL 2 Input : Power module base block signal. Output : Safety circuit status monitor

*: Planning

MECHATROLINK specifications

	M-III
Profile	Standard servo
Data size	32byte, 48byte
Transmission cycle	0.125ms to 4ms

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
YASKAWA has sales and after-sales service all around the world.
America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

YASKAWA ELECTRIC CORPORATION

MECHATROLINK-III Σ-V mini Ultra-Compact AC Servo Drives

Features



- More compact than ever
  The ultra-compact drive enables more effective use of limited space, and opens up more space for the controller and equipment.
- DC power input supported
  The battery-powered, ultra-compact, and high-performance servo drives makes battery-powered transport systems such as clean robots and clean Automatic Guided Vehicles (AGV) much more efficient.
- Cutting edge technologies for superior performance and ease of use
  The new advanced auto tuning function allows you to achieve an optimal setup for your system in minimal time. The following functions are also provided: Model following control to minimize positioning time, vibration suppression function to suppress vibrations from equipment, friction compensation function for high load-variation applications, and the new tuning less function for system operation startup and for high load-variation applications.
  Type: SGDV-□□□E21□ (□: dependent on a spec.)

Specifications

Item		Specifications
Performance		Speed - Frequency characteristics: 1.6 kHz (Load conditions: Load inertia JL=Motor inertia JM)
		Torque control accuracy Repeatability) : ±1%
MECHATROLINK Communications	Control Specifications	Position control, speed control and torque control through MECHATROLINK-III communications
	Command Type	MECHATROLINK commands for sequence, motion, data writing/reading, monitoring, adjustment, etc.
Applicable Motor Capacity		3.3 W to 30 W
Encoder Resolution		17 bits (absolute encoder only)
Input Signals	Number of channels	3ch. Signal alllocations and positive/negative logics can be modified.
	Function	Forward run prohibited, Reverse run prohibited, Forward torque limit, Reverse torque limit, Extaernal latch signal, Homing deceleration switch signal
Output Signals	Number of channels	3ch. Signal alllocations and positive/negative logics can be modified.
	Function	Positioning completion, Speed coincidence detection, Servomotor rotation detection, Servo ready, Torque limit detection, Speed limit detection, Break interlock, Warning, NEAR
Protective Functions		Overcurrent, Overvoltage, Low voltage, Overload, Regeneratio error, Over speed, etc.
Standards Compliance		UL, CE (EMC, Low Voltage Directive), RoHS Directive
Mounting		Base-mounted

MECHATROLINK specifications

	M-III
Profile	Standard servo
Data size	32byte, 48byte
Transmission cycle	0.125ms to 4ms

Contact Information

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Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

OMRON Corporation

OMNUC G5 Series AC Servo Drivers

R88D-KN□-ML2

Features

Preeminent Servo performance: High-speed response, High-speed rotation, and High-accuracy control. Contribute to machine performance and productivity improvement.

- Industry Top-class Tracking Performance.
  - Speed Response Frequency of 2 kHz.
  - Realtime Autotuning Function shortens the stabilization time in lowrigidity systems as well as high-rigidity systems.
- Offer solution for a wide variety of applications.
  - Comes with IEC61800-5-2 (STO) function as a standard function.
  - External encoder I/F for full-closing control



R88D-KN□-ML2

Specifications

Item			Specifications
MECHATROLINK communications		Protocol	MECHATROLINK-II
		Node address setting	41 to 5F hex
Command method		Operation specifications	Position, speed, or torque control via MECHATROLINK-II communications
		Command inputs	MECHATROLINK-II commands
Position control functions		Acceleration/ deceleration functions	First step asymmetric linear acceleration/deceleration, moving average acceleration/deceleration
I/O signals	Sequence inputs	Signal allocation can be changed	Selective from the following: Emergency stop input, Forward drive prohibition (POT), reverse drive prohibition (NOT), origin proximity input, Forward External Torque Limit Input (PCL), Reverse External Torque Limit Input (NCL), External Latch Input 1, 2 and 3.
	Sequence outputs	Fixed outputs	Alarms
		Signal allocation can be changed	Servo ready completed output (READY), Brake interlock output (BKIR), Positioning Completion Output 1 (INP1), Positioning Completion Output 2 (INP2), Motor Rotation Speed Detection Output (TGON), Torque Limiting Output (TLIMT), Zero Speed Detection Output (ZSP), Speed Conformity Output (VCMP), Warning Output (WARN1 and WARN2), Position Command Status Output (PCMD), Speed Limiting Output (VLIMT), Alarm Clear Attribute Output (ALM-ATB), Speed Command Status Output (VCMD)
Other specifi-cations	Analog monitor function		Output voltage: +/−10VDC Built-in analog monitor connector to monitor speed, torque, or other command signals
	Communi-cations	Connected device	Personal computer
		Functions	Status display, user constant settings, monitor display, alarm traceback display, and jogging

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	-	-	×
Transmission cycle				1ms to 4ms

Contact Information

OMRON Corporation

Drive Div.	Shiokoji Horikawa, Shimogyo-ku, Kyoto, 600-8530 Japan	TEL : +81-75-344-7233	FAX : +81-75-344-7107
Regional H.Q. OMRON EUROPE B.V.	Wegalaan 67-69, NL-2132 JD Hoofddorf, The Netherlands	TEL : +31-2356-81-300	FAX : +31-2356-81-388
OMRON ELECTRONICS LLC	1 East Commerce Drive Schaumburg, IL 60173 U.S.A	TEL : +1-847-843-7900	FAX : +1-847-843-8568
OMRON ASIA PACIFIC PTE. LTD.	83 Clemenceau Avenue, #11-01, UE Square, Singapore 239920	TEL : +65-6835-3011	FAX : +65-6835-2711
OMRON (CHINA) CO., LTD.	Room 2211, Bank of China Tower, 200 Yin Cheng Zhong Road, PuDong New Area, Shanghai, 200120 China	TEL : +86-21-5037-2222	FAX : +86-21-5037-2200

URL : http://www.omron.com/

Harmonic Drive Systems Inc.

AC Servo Drivers HA-680ML series

Features

- Small and compact design
  It is about half the size of a postcard, just the size of a card case. Its ultra-light design with a weight of 230 g is useful for small, space-saving devices.
- Substantial functions
  Position control, speed control, and torque control are provided as standard. It is compact and has substantial functions at the same time.
- Easy function setting
  Parameters can be set easily using dedicated communication software PSF-520.



HA-680ML

Specifications

Item		Specifications
MECHATROLINK communications	Protocol	MECHATROLINK- II
	Node address setting	41H to 5FH (Max. number of slaves: 30)
Supply voltage		DC24V (20 to 28V)
Control method		Sinusoidal PWM control switching frequency 12.5kHz
Encoder		4-line specification, serial transmission method, line driver input
Encoder monitor		Phase-A, B, Z line driver output
I/O signal		DI: 5 points (insulation with photo coupler) DO: 5 points (insulation with photo coupler)
Protection function		Overload, Max. deviation, Encoder break detection, encoder reception error, UVW error, regenerative error, operating temperature error, system error, overcurrent, load short circuit, memory error, overspeed
Regenerative absorption circuit		Incorporated (with an external capacitor/resistor installation terminal). The built-in resistance has a fuse.

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	—	×	×
Transmission cycle		1ms, 2ms, 3ms, 4ms, 5ms		

Contact Information

Harmonic Drive Systems Inc.

Head Office	6-25-3 Minami-Ohi, Shinagawa-ku, Tokyo, 140-0013, Japan	TEL : +81-3-5471-7800	FAX : +81-3-5471-7811
Overseas Division	1856-1 Hotakamaki, Azumino-shi, Nagano, 399-8305, Japan	TEL : +81-263-83-6935	FAX : +81-263-83-6901
HOTAKA Plant	1856-1 Hotakamaki, Azumino-shi, Nagano, 399-8305, Japan	TEL : +81-263-83-6800	FAX : +81-263-83-6901

URL : https://www.hds.co.jp/english/

Harmonic Drive Systems Inc.

AC Servo Drivers HA-800B series

Features

- Shorter positioning stabilization time using original control logic
  By utilizing the characteristics of HarmonicDrive in the control logic, positioning overshoot and undershoot are suppressed and the positioning stabilization time is reduced significantly.
- Adopting an I/O signal function assignment method Desired functions can be selected from a wide range of functions and assigned to I/O signals according to specific applications.
  Also, multiple functions can be assigned to a single input terminal for an input signal, which adds to usability.
- Auto-tuning function
  The auto-tuning function allows the driver to estimate the load and automatically set an appropriate servo gain on the test mode.



HA-800B series

Specifications

Item		Specifications
MECHATROLINK	Profile	MECHATROLINK- II
	Address	41H to 5FH
Input Voltage	Control	AC100V to 115V (Single phase) or AC200V to 230V (Single phase) +10 to －15%
	Control	AC100V to 115V (Single/Three phase) or AC200V to 230V (Single/Three phase) +10 to －15% (By the actuator)
Control method		Sine wave PWM
Encoder		Lesswire incremental, 14wire incremental, 13bitAbsolute, 17bitAbsolute
Encoder monitor		A, B, Z line driver output
I/O signal		IN:5 OUT:4 Insulation by photo coupler
Security function	Alarm	Emergency stop, overspeed, overload, IPM error (overcurrent), Encoder error, Over posittion, Memory error, FPGA error
	Warning	Battery voltage Low, Over Load, FAN stop, Main Power voltage Low, MECHATROLINK command data error, MECHATROLINK command error, Comunication error, Forward stop, Reverse stop
Control mode		Position, Speed, Trqu (By the MECHATROLINK)

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	-	×	×
Transmission cycle		1ms, 1.5ms, 2ms, 3ms, 4ms, 5ms		

Contact Information

Harmonic Drive Systems Inc.

Head Office	6-25-3 Minami-Ohi, Shinagawa-ku, Tokyo, 140-0013, Japan	TEL : +81-3-5471-7800	FAX : +81-3-5471-7811
Overseas Division	1856-1 Hotakamaki, Azumino-shi, Nagano, 399-8305, Japan	TEL : +81-263-83-6935	FAX : +81-263-83-6901
HOTAKA Plant	1856-1 Hotakamaki, Azumino-shi, Nagano, 399-8305, Japan	TEL : +81-263-83-6800	FAX : +81-263-83-6901

URL : https://www.hds.co.jp/english/

YASKAWA ELECTRIC CORPORATION

MECHATROLINK- II Σ-V series AC Servo Drives

Features

- Superlative Performance
  The best amplifier response in the industry slashes settling time. Standard use of high-resolution encoder has enabled high-precision positioning and fine processing.
- Simple Start-up
  New Tuning-less Function
  ——Get up and running quickly after hooking up the motor
  New Advanced Autotuning
  ——Realize optimal machine performance
  New “One-parameter” Tuning
  ——Get the most from your machine
- Outstanding Expandability
  Extensive variety of motors from 50W to 15kW. Support for linear servomotors, direct drive servomotors and linear sliders.
  Wide selection of option module will be released in the future.
  Type: SGDV- □□□□1□□ (□: dependent on a spec.)



Σ-V

Specifications

Item		Specifications
Performance		Speed Frequency Characteristics : 1.6kHz (load condition: load moment of inertia JL=Motor moment of inertia Jm)
		Tolrque control tolerance (repeatability) : ±1%
MECHATROLINK Communications	Performance	Position control, speed control, and torque control through MECHATROLINK- II communications
	Command Input	MECHATROLINK commands (for sequence, motion, data setting/reference, monitor, adjustment, and other commands.)
Applicable servo motor capacity		50W to 15kW
Encoder resolution		20-bit (incremental/absolute encoder), 13-bit (only for incremental encoder of SGMJV servomotors)
Input Signals	Number of channels	7ch. Signal alllocations and positive/negative logics can be modified.
	Function	Forward run prohibited, Reverse run prohibited, Forward torque limit, Reverse torque limit, Extaernal latch signal, Homing deceleration switch signal
Output Signals	Number of channels	3ch. Signal alllocations and positive/negative logics can be modified.
	Function	Positioning completion, Speed coincidence detection, Servomotor rotation detection, Servo ready, Torque limit detection, Speed limit detection, Break interlock, Warning, NEAR
Protective Functions		Overcurrent, Overvoltage, Low voltage, Overload, Regeneratio error, Over speed, etc.
Option Module Functions		Serial encoder communication input for fully-closed loop control
Compliant Standards		UL, CE marking (EMC directive, low voltage directive), Safety, RoHS
Safety Functions		EN954 category 3 Stop category 0, IEC61508 SIL 2 Input : Power module base block signal. Output : Safety circuit status monitor

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	×	×	×
Transmission cycle		2ms	0.125ms to 4ms	0.5ms to 4ms

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
YASKAWA has sales and after-sales service all around the world.
America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

YASKAWA ELECTRIC CORPORATION

MECHATROLINK- II Σ-V mini Ultra-Compact AC Servo Drives

Features



- More compact than ever
  The ultra-compact drive enables more effective use of limited space, and opens up more space for the controller and equipment.
- DC power input supported
  The battery-powered, ultra-compact, and high-performance servo drives makes battery-powered transport systems such as clean robots and clean Automatic Guided Vehicles (AGV) much more efficient.
- Cutting edge technologies for superior performance and ease of use
  The new advanced auto tuning function allows you to achieve an optimal setup for your system in minimal time. The following functions are also provided: Model following control to minimize positioning time, vibration suppression function to suppress vibrations from equipment, friction compensation function for high load-variation applications, and the new tuning less function for system operation startup and for high load-variation applications.
  Type: SGDV-□□□E11□ (□: dependent on a spec.)

Specifications

Item		Specifications
Performance		Speed - Frequency characteristics: 1.6 kHz (Load conditions: Load inertia JL=Motor inertia JM)
		Torque control accuracy Repeatability) : ±1%
MECHATROLINK Communications	Control Specifications	Position control, speed control and torque control through MECHATROLINK- II communications
	Command Type	MECHATROLINK commands for sequence, motion, data writing/reading, monitoring, adjustment, etc.
Applicable Motor Capacity		3.3 W to 30 W
Encoder Resolution		17 bits (absolute encoder only)
Input Signals	Number of channels	3ch. Signal alllocations and positive/negative logics can be modified.
	Function	Forward run prohibited, Reverse run prohibited, Forward torque limit, Reverse torque limit, Extaernal latch signal, Homing deceleration switch signal
Output Signals	Number of channels	3ch. Signal alllocations and positive/negative logics can be modified.
	Function	Positioning completion, Speed coincidence detection, Servomotor rotation detection, Servo ready, Torque limit detection, Speed limit detection, Break interlock, Warning, NEAR
Protective Functions		Overcurrent, Overvoltage, Low voltage, Overload, Regeneratio error, Over speed, etc.
Standards Compliance		UL, CE (EMC, Low Voltage Directive), RoHS Directive
Mounting		Base-mounted

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	-	×	×
Transmission cycle			0.25ms to 4ms	

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
YASKAWA has sales and after-sales service all around the world.
America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

YASKAWA ELECTRIC CORPORATION

Low Harmonics Regenerative Matrix Converter U1000

Features

U1000 is the product applies matrix converter technology for the first time in the world.
It wipes out the existing system problems in harmonic measures and power regeneration, also contribute to the customers with energy-saving performance more than conventional inverter.
The U1000 was awarded the Minister's Prize of the Economy, Trade and Industry in 2015 which is the highest award in the Energy Conservation Grand Prize.

- Power Regeneration to Save Energy!
  Generate electric power when rotate the motor and achieve energy saving with utilizing the energy efficiently.
- Low Harmonics!
  Achieve the less harmonic since the sinusoidal input current is the almost same as commercial power supply.
  Also, correspond to downsizing of the power supply capacity as well as Harmonic Suppression Guidelines easily.
- Compact All-in-One Unit!
  Harmonic countermeasures that were previously required to connect a converter, such as input AC reactors, harmonic filter reactors, and capacitors, are not necessary, which helps you save wiring, space, and energy costs.



U1000

Specifications

Item		Specifications
Rated Input/Output	Max. Output Voltage	Depends on input voltage
	Max. Output Frequency	400 Hz
Power Supply Characteristics	Rated Voltage/ Rated Frequency	Three-phase AC power supply 200 V Class: 200 to 240 Vac 50/60 Hz, 400 V Class: 380 to 480 Vac 50/60 Hz
	Allowable Voltage Fluctuation	−15% to +10%
	Allowable Frequency Fluctuation	±3% (Frequency fluctuation rate: 1 Hz/100 ms or less)
	Allowable Power Voltage Imbalance between Phases	less than 2%
Control Characteristics	Control Method	Sine-wave PWM [V/f control, V/f Control with PG, Open Loop vector control, Closed Loop Vector Control, Open Loop Vector Control for PM, Advanced Open Loop Vector Control for PM, Closed Loop Vector Control for PM (switched by parameter setting)]
	Harmonic Current Distortion Rate	5% or less (IEEE 519)
	Input Power Factor	0.98 or more (for rated load)
	Overload Tolerance	HD Rating: 150% of rated output current for 60 s, ND Rating: 120% of rated output current for 60 s (Derating may be required for repetitive loads)
Status Output		1 C-relay output at failures, 1 a contact output (multi-function) during operation, 2 multi-function PHC outputs selectable at alarms, 2 multi-function analog outputs selectable for analog outputs, Pulse train output: 1 (multi-function)

MECHATROLINK specifications

		M-I	M-II	
		17-byte	17-byte	32-byte
Command	Inverter	×	×	×
Transmission cycle	=Comm. Cycle	2ms	500μs to 8ms	1ms to 8ms
	≠Comm. Cycle		2ms to 8ms	

	M-III
Profile	Standard Inverter
Data size	32byte, 48byte
Transmission cycle	0.250ms to 8ms

Contact Information

YASKAWA ELECTRIC CORPORATION
Contanct Yaskawa's Product and Technical Website "e-mechatronics.com".
e-mechatronics.com http://www.e-mechatronics.com/en/

YASKAWA ELECTRIC CORPORATION

High Performance Vector Control AC Drive A1000

Features

With decades of experience in just about every application, Yaskawa offers a High Performance Vector Control drive.

- Motor Drive Performance Leading the Pack
  Capable of driving any kind of motor for the most advanced drive technology.
- The Drive for a Greener World
  Combining the high efficiency of a synchronous motor along with A1000's Energy Saving control capabilities allows for unparalled energy saving.
- Transforming the Application Installation with Unparalleled Performance
  Yaskawa continues to make applications even smaller by combining the world's smallest drive in its class with a synchronous motor.



YASKAWA AC Drive
A1000

Specifications

Item	Specifications	
Power Supply	200 V (Three-Phase)	400 V (Three-Phase)
Capacity Range	0.4 kW to 110 kW	0.4 kW to 630 kW*
Control Method	V/f Control, V/f Control with PG, Open Loop Vector Control, Closed Loop Vector Control with PG, Open Loop Vector for PM, Advanced Open Loop Vector for PM, Closed Loop Vector for PM	
Frequency Control Range	0.01 to 400 Hz	
Overload Tolerance	Normal Duty Rating: 120% of rated output current for 60 s. Heavy Duty Rating: 150% of rated output current for 60 s.	
Accel/Decel Time	0.00 to 6000.0 s (4 selectable combinations of independent acceleration and deceleration settings)	
Protection Functions	Motor Protection, Momentary Overcurrent Protection, Overload Protection, Overvoltage Protection, Undervoltage Protection, Ground Fault Protection...	
Main Control Functions	Torque Control, Droop Control, Feed Forward Control, Zero Servo Control, Momentary Power Loss Ride-Thru, Speed Search, Auto-Tuning, Overexcitation Deceleration, High Slip Braking, PID Control, Energy Saving Control, DriveWorksEZ (customization software), Removable Terminal Block with Parameter Backup...	
Interface	MECHATROLINK-Ⅱ (optional), RS-232C, RS422/485...	

*: Some capacities not yet available

MECHATROLINK specifications

		M-Ⅰ	M-Ⅱ	
		17-byte	17-byte	32-byte
Command	Inverter	×	×	×
Transmission cycle	=Comm. Cycle	2ms	500μs to 8ms	1ms to 8ms
	≠Comm. Cycle		2ms to 8ms	

Contact Information

YASKAWA ELECTRIC CORPORATION
Contanct Yaskawa's Product and Technical Website "e-mechatronics.com".
e-mechatronics.com http://www.e-mechatronics.com/en/

YASKAWA ELECTRIC CORPORATION

Compact Vector Control Drive AC Drive V1000

Features

Always making application control easier, Yaskawa presents a powerful, extremely compact vector control drive.

- So advanced!
  A single drive with so many uses, benefiting your application the more you use it.
- So easy!
  Quick and easy installation, ready to run your application in no time. You'll be amazed how simple it is to use.
- Smallest in the world!
  Top performance for its class. Loaded with functions and features in an unbelievably small package.



YASKAWA AC Drive
V1000

Specifications

Item	Specifications		
Power Supply	200 V (Three-Phase)	200 V (Single-Phase)	400 V (Three-Phase)
Capacity Range	0.1 kW to 18.5 kW	0.1 kW to 3.7 kW	0.4 kW to 630 kW
Control Method	Open Loop Vector Control (Current Vector), V/f Control, PM Open Loop Vector Control		
Frequency Control Range	0.01 to 400 Hz		
Overload Tolerance	Normal Duty Rating: 120% of rated output current for 60s. Heavy Duty Rating: 150% of rated output current for 60s.		
Accel/Decel Time	0.00 to 6000.0 s (4 selectable combinations of independent acceleration and deceleration settings)		
Protection Functions	Motor Protection, Momentary Overcurrent Protection, Overload Protection, Overvoltage Protection, Undervoltage Protection, Ground Fault Protection...		
Main Control Functions	Momentary Power Loss Ride-Thru, Speed Search, Torque Limit, Accel/Decel Time Switch, Auto-Tuning, Overexcitation Deceleration, High Slip Braking, PID Control, Energy Saving Control, DriveWorksEZ (customization software), Removable Terminal Block with Parameter Backup...		
Interface	MECHATROLINK-Ⅱ (optional), RS-232C, RS422/485...		

MECHATROLINK specifications

		M-Ⅰ	M-Ⅱ	
		17-byte	17-byte	32-byte
Command	Inverter	×	×	×
Transmission cycle	=Comm. Cycle	2ms	500μs to 8ms	1ms to 8ms
	≠Comm. Cycle		2ms to 8ms	

	M-Ⅲ
Profile	Standard Inverter
Data size	32byte, 48byte
Transmission cycle	0.250ms to 8ms

Contact Information

YASKAWA ELECTRIC CORPORATION
Contanct Yaskawa's Product and Technical Website "e-mechatronics.com".
e-mechatronics.com http://www.e-mechatronics.com/en/

YASKAWA ELECTRIC CORPORATION

Current Vector Control General-Purpose Inverter Varispeed G7

Features

The world's very first inverter drive to use current vector control employing 3-level control.

- 3-level control puts to rest potential concerns with 400V class inverters such as surge voltage.
- Provides high performance and high functionality through realistic current vector control, operating a vast array of applications with tremendous accuracy.
- Fully MECHATROLINK compatible with an optional communication card.



Varispeed G7

Specifications

Item	Specifications	
Power Supply	200V (3-Phase)	400V (3-Phase)
Capacity Range	0.4kW to 110kW	0.4kW to 300kW
Control Method	Sine Wave PWM V/f, Vector Control, Open Loop Vector Control	
Output Frequency Range	0.01 to 400Hz	
Overload Tolerance	150% for 1 minute	
Accel/Decel Time	0.01 to 6000.0 sec (acceleration and deceleration times can be set separately)	
Protective Functions	Motor Protection, Momentary Overcurrent, Overload, Overvoltage, Undervoltage, Stall Prevention...	
Main Control Functions	PID Control, Energy Saving Control, Momentary Power Loss, Speed Search, Auto-Tuning...	
Interface	MECHATROLINK, RS-232C, RS422/485...	

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Inverter	×	×	×
Transmission cycle	=Comm. Cycle	2ms	500μs to 8ms	1ms to 8ms
	≠Comm. Cycle		2ms to 8ms	

Contact Information

YASKAWA ELECTRIC CORPORATION

Contanct Yaskawa's Product and Technical Website "e-mechatronics.com".

e-mechatronics.com http://www.e-mechatronics.com/en/

IAI America Inc.

SCON Series Controllers for Robocylinders

Features

- Allows the connection with various types of electric actuators such as slider type, rod type, table type, rotary types, and gripper type.



- Equipped with the function of off-board tuning for the optimized operation setting to a given payload.
- Allows recognizing the best time of maintenance from cumulative rotation count and cumulative travelling distance.
- Allows retaining the time data of alarm occurrence with the calendar function.
  Model code of relevant products: SCON-CA- □-ML3-0-△
  (□ : wattage of motor, kind of encoder / △ : input voltage)



SCON Series

Specifications

Item		Specifications
MECHATROLINK communication	Operation specifications	Location control by the MECHATROLINK-III standard servo profile command.
	Command input	Interpolation feed, positioning, constant speed feed, alarm/warning clearing, alarm/warning readout, forcible brake release
Number of control axes		1 axis
Connectable actuators		RCS2/RCS3 series (AC200V servo motor type actuators)
Drive power voltage		AC100 to 115V±10%/AC200 to 230V±10%
Exterior dimensions		(Less than 400W): 58mm wide, 121mm deep, 194mm high (400W or more): 72mm wide, 121mm deep, 194mm high

MECHATROLINK specifications

	M-III
Compatible profiles	Standard servo
Number of transmission bytes	32byte, 48byte
Transmission cycle	0.5 to 4ms (0.5ms increment)

Contact Information

IAI America, Inc
2690 W.237th Street Torrance. CA 90505 TEL : +1-310-891-6015 FAX : +1-310-891-0815
URL : http://www.intelligentactuator.com

ALGOSYSTEM CO.,LTD.

MECHATROLINK-III Slave I/O Modules

Features

- Specific I/O Modules available for various applications
  Mounted quickly on DIN rails
- Digital Output Modules (NPN type)
  Choice of comm. error recovery: data retain or reset
- Analog Input/Output Modules
  Setting range of input/output with Dip SW
  Arithmetic average or moving average for input
- Encoder Modules
  Available pulse input: phase difference pulse between phases (A/B), sign+pulse or adding/subtracting pulse



M3EPW00 M3EPF00

Models

Model No.	Name
M3EPF00	16 digital inputs module
M3EP0F0	16 digital outputs module
M3EPW00	32 digital inputs module
M3EP0W0	32 digital outputs module
M3EPFF0	16 digital inputs / 16 outputs module
M3EA400	4 analog inputs module
M3EA040	4 analog outputs module
M3EC200	2 encoder module (line receiver input type)
M3EC201	2 encoder module (open collector input type)

Specifications

Item	Specifications
Voltage rating	DC24V (permissible range DC 20.4V — 26.4V)
Operating temperature	0 — 55 deg.C
Storage temperature	−25 — +70 deg.C
Operating humidity	30 — 90% RH (non-condensing)
Storage humidity	30 — 90% RH (non-condensing)
Signal LEDs	PWR (G), CON (G), ERR (R), Link1 (G), Link2 (G)
Connector	RJ45×2

MECHATROLINK specifications

	M-III
Profile	Standard I/O
Data size	48byte
Transmission cycle	62.5 µs to 8ms

Contact Information

ALGOSYSTEM CO., LTD.
656 Kobirao, Mihara-ku, Sakai, Osaka 587-0021, Japan TEL : +81-72-362-5067 FAX : +81-72-362-4856
URL : http://www.algosystem.co.jp

MG Co., Ltd.

MECHATROLINK-III REMOTE I/O R7 Series

Features

- Compact, all-in-one modules
- Max. 4 points of analog or 16/32/64 points of discrete I/O signals
- High-speed analog I/O modules are also available.
- Removable terminal blocks make the module replaceable without disconnecting wiring.
- Zero adjustment and other settings can be handled by message commands. (Message commands may not be usable for all models.)


R7G4FML3 Series
(W130xH50xD47 mm)


R7K4FML3 Series
(W210xH50xD47 mm)


R7G4HML3 Series
(W130xH50xD57 mm)


R7F4HML3 Series
(W115xH50xD75 mm)

Model No. Identification

MODEL	FUNCTION	POWER / I/O CONNECTION
R7G4FML3-6-DA16	16-point contact input (NPN/PNP)	M3 screw terminal
R7G4FML3-B-DA16A	16-point contact input (NPN)	Tension clamp terminal /e-CON connector
R7K4FML3-6-DA32	32-point contact input (NPN/PNP, external excitaion 24V)	M3 screw terminal
R7K4FML3-6-DA32-1	32-point contact input (NPN/PNP, external excitaion 12V)	M3 screw terminal
R7I4DML3-DA32A-B	32-point contact input (NPN)	Tension clamp terminal /e-CON connector
R7G4FML3-6-DC16A	16-point transistor output (NPN)	M3 screw terminal
R7G4FML3-6-DC16B	16-point transistor output (PNP)	M3 screw terminal
R7K4FML3-6-DC32A	32-point transistor output (NPN, external excitaion 24V)	M3 screw terminal
R7K4FML3-6-DC32A1	32-point transistor output (NPN, external excitaion 12V)	M3 screw terminal
R7K4FML3-6-DC32B	32-point transistor output (PNP, external excitaion 24V)	M3 screw terminal
R7I4DML3-DC32A-B	32-point transistor output (NPN)	Tension clamp terminal /e-CON connector
R7F4HML3-D-DAC32A	16-point contact input (NPN/PNP) / 16-point transistor output (NPN)	Tension clamp terminal /MIL connector
R7F4HML3-D-DAC32B	16-point contact input (NPN/PNP) / 16-point transistor output (PNP)	Tension clamp terminal /MIL connector
R7I4DML3-DAC32C-B	16-point contact input (NPN) / 16-point transistor output (NPN)	Tension clamp terminal /e-CON connector
R7K4JML3-E-DAFC64A	32-point contact input (NPN/PNP) / 32-point transistor output (NPN)	Tension clamp terminal
R7G4HML3-6-SV4	4-point DC voltage/current input (isolated)	M3 screw terminal
R7G4HML3-6-SVF4	4-point high speed DC voltage/current input (isolated, conversion rate 200 µs/4 chs)	M3 screw terminal
R7G4HML3-6-TS4	4-point thermocouple input (isolated)	M3 screw terminal
R7G4HML3-6-LC2	2-point strain gauge input (message command)	M3 screw terminal
R7G4HML3-6-LC2A	2-point Nireco tension sensor input (Nireco MB/MG tension sensor, message command)	M3 screw terminal
R7G4HML3-6-STYVS1	1-point self-synch input / 1-point DC voltage/current output (message command)	M3 screw terminal
R7G4HML3-6-PA1	1-point rotary encoder speed/position input (RS-422 line driver/ open collector)	M3 screw terminal
R7G4HML3-6-YVF4	4-point high speed DC voltage output (isolated)	M3 screw terminal
R7G4HML3-6-YSF4	4-point high speed DC current output (isolated)	M3 screw terminal

MECHATROLINK specifications

	M-III
Profile	Standard I/O
Data size	16byte
Transmission cycle	125µs, 250µs, 500µs, 1 to 64ms (1-ms increments)

Contact Information

MG Co., Ltd.
13th floor, Tradepia Yodoyabashi, 2-5-8 Imabashi, Chuo-ku, Osaka 541-0042 JAPAN
TEL : +81-(0)6-7525-8801
FAX : +81-(0)6-7525-8810
E-mail : info@mgco.jp
URL : https://www.mgco.jp/

MG Co., Ltd.

Multi-channel, Mixed Signal Remote I/O R3 Series

Features

- Network module model R3-NML3 is designed for MECHATROLINK-III.
- Wide selection of I/O modules including DC, AC, temperature, strain gauge, pulse trains, AC power
- 4 isolated to 16 non-isolated analog inputs per module
- Max. 64 discrete I/O per module
- Dual redundant communication networks and power supplies



R3 Series

Specifications

Item	Specifications
Network module model No.	R3-NML3
I/O module types	Di 16 to 64, Do 16 to 64, DC voltage and current, thermocouple, RTD, potentiometer, twowire transmitter, strain gauge, AC voltage and current, power, totalized pulse, encoder, alarm, BCD
Power input	100 to 120V AC, 200 to 240V AC, 24V DC
Dielectric strength	1500V AC @ 1 minute (MECHATROLINK to internal bus or internal power to power input to RUN output to FG)
Insulation resistance	100M ohms or greater with 500V DC
Operating temperature	−10 to +55 deg.C
Operating humidity	30 to 90%RH (non-condensing)
Atmosphere	No corrosive gas or heavy dust
Mounting	Installation Base (model: R3-BSx)

MECHATROLINK specifications

	M-III
Profile	Standard I/O
Data size	16, 32, 48, 64byte
Transmission cycle	0.5ms, 1ms to 64ms

Contact Information

MG Co., Ltd.
13th floor, Tradepia Yodoyabashi, 2-5-8 Imabashi, Chuo-ku, Osaka 541-0042 JAPAN
TEL : +81-(0)6-7525-8801
FAX : +81-(0)6-7525-8810
E-mail : info@mgco.jp
URL : https://www.mgco.jp/

YASKAWA ELECTRIC CORPORATION

MECHATROLINK-III 64-points I/O Module MTD2310

Features

- MTD2310 is the 64-points I/O module. It has 64-points for input and 64-points for output.
- Pin placement of the input/output connector and specifications are totally same as JEPMC-IO2310-E (MECHATROLINK-Ⅱ 64-points I/O module).

  Model: JEPMC-MTD2310-E (MTD2310)



MTD2310

Specifications

Item		Specifications
Input Circuit	Number of Input Points	64 points (32 points × 2)
	Input Method	Combined sink/source
	Insulation Method	By photocoupler
	Input Voltage	24 VDC (20.4 to 28.8)
	Input Current	5 mA/point
Output Circuit	Number of Input Points	64 points (32 points × 2)
	Input Method	Transistor/open collector/sink output
	Insulation	Method By photocoupler
	Output Voltage	24 VDC (20.4 to 28.8)
	Output Current	50 mA/point
	Fuse	For each common terminal there is a fuse for protection against fire on shorting of outputs
External Power Suppuly		24 VDC (20.4 to 28.8)
External Dimensions		Width: 120 mm, height: 130 mm, depth: 105 mm

MECHATROLINK specifications

	M-III
Profile	Standard I/O
Data size	16byte
Transmission cycle	0.25ms, 0.5ms, 0.75ms, 1ms to 8ms (multiple of 0.5ms)

Contact Information

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YASKAWA ELECTRIC CORPORATION

Analog Input Module MTA2900

Features

- MTA2900 is the analog input module. It has 8 channels for analog input. [(4 channels/1 connector) ×2]
- Every channel can choose the analog input range among −10 to +10V and 0 to 20mA by setting parameters.

Model : JEPMC-MTA2900-E (MTA2900)



MTA2900

Specifications

Item		Specifications	
Analog Input	Analog Input Range	−10 to +10 V	0 mA to 20 mA
	Number of Channels	8 [(4 channels/1connector) ×2]	
	Number of Channels to be Used	1 to 8	
	Isolation	Between channels: Not isolated	
	Max. Rated Input	±15 V	±30 mA
	Input Impedance	20 kΩ	250 Ω
	Resolution	16 bits (−3127 to +31276)	15 bits (0 to +31276)
	Accuracy (0° to 55°C)	±0.3 % (±30 mV)	±0.3 % (±0.06 mA)
	Input Conversion Time	1.4 ms max.	
Module Power Supply		24 VDC (20.4 V to 28.8 V), 500 mA max.	
Dimension		46mm(W) × 130mm(H) × 108mm(D)	

MECHATROLINK specifications

	M-III
Profile	Standard I/O
Data size	32byte
Transmission cycle	125µs, 250µs, 500µs, 1ms to 8ms (multiple of 0.5ms)

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YASKAWA ELECTRIC CORPORATION

Analog Output Module MTA2910

Features

- MTA2910 is the analog output module. It has 4 channels for analog input. (4 channels/1 connector)
- Every channel can choose the analog output range among −10V to +10V and 0V to +10V by setting parameters.

Model: JEPMC-MTA2910-E (MTA2910)



MTA2910

Specifications

Item			Specifications	
Analog Output	Analog Output Range		−10 V to +10 V	0 V to +10 V
	Number of Channels		4	
	Number of Channels to be Used		1 to 4	
	Isolation		Between channels: Not isolated	
	Resolution		16 bits (−3/127 to +31276)	15 bits (0 to +31276)
	Maximum Allowable Load Current		±5 mA	
	Accuracy	25°C	±0.1 % (±10 mV)	
		0°C to 55°C	±0.3 % (±30 mV)	
	Output Delay Time		1.2 ms max. (After change with a full scale of −10 to +10 V)	
Module Power Supply			24 VDC (20.4 V to 28.8 V), 500 mA max.	
Dimension			46mm(W) × 130mm(H) × 108mm(D)	

MECHATROLINK specifications

	M-III
Profile	Standard I/O
Data size	16byte
Transmission cycle	125µs, 250µs, 500µs, 1ms to 8ms (multiple of 0.5ms)

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YASKAWA ELECTRIC CORPORATION

Pulse Input Module MTP2900

Features

- The MTP2900 module is a pulse input module of 32 bits counting the pulse output of the pulse outbreak machinery such as rotary encoders.
- Every channel can choose the pulse input method among A/B method, UP/DOWN method and sign method by setting parameter.
  Model: JEPMC-MTP2900-E (MTP2900)



MTP2900

Specifications

Item		Specifications
Pulse Input	Number of Channels	2
	Input Circuit (Selected by software)	5-V differential: 4-MHz response frequency (RS-422, not isolated) 12 V: 120-kHz response frequency (12 V, 7 mA, current source mode input, and photocoupler isolation)
	Input Method	A/B (1, 2, or 4 multipliers), UP/DOWN (1 or 2 multipliers), and sign (1 or 2 multipliers)
	Counter Functions	Reversible counter, interval counter, and frequency measurement
	Maximum Frequency	4 MHz with 5-V differential input (16 MHz with 4 multipliers)
	Coincident Output	2 points, 24 V, 50 mA current sink mode output, and photocoupler isolation
	DO Output	2 points, 24 V, 50 mA, current sink mode output, and photocoupler isolation (zone output, speed-coincidence output, and frequency-coincidence output)
	PI Latch Input	2 points, 24 V, source mode input, and photocoupler isolation
Input Method		Sign, UP/DOWN and A/B pulse
Module Power upply		24 VDC (20.4 V to 28.8 V), 500 mA max.
Dimension		46mm(W) × 130mm(H) × 108mm(D)

MECHATROLINK specifications

	M-III
Profile	Standard I/O
Data size	64byte
Transmission cycle	125μs, 250μs, 500μs, 1ms to 8ms (multiple of 0.5ms)

Note: The MTP2900 works as a multi-slave.

Contact Information

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YASKAWA ELECTRIC CORPORATION

Pulse Output Module MTP2910

Features

- The MTP2910 module is a motion module of the pulse output type with the interface of 4 axes. It can apply to connection with stepping motors and Servo dreives.
- Every channel can choose the pulse output method among CW/CCW method, sign + pulse method and phase A/B method by setting parameter.
  Model: JEPMC-MTP2910-E (MTP2910)



MTP2910

Specifications

Item		Specifications
Pulse Output	Number of Controlled Axes	4
	Pulse Output	Output Method : CW/CCW, sign + pulse, and phase A/B Maximum Frequency : 4 Mpps with CW/CCW or sign + pulse, 1 Mpps with phase A/B (before multiplication) Pulse Output Interface : 5-V differential outputs
	Digital Input	5 points × 4 channels, source mode input DI_0 : Separate for each power supply... 5 V/3.9 mA, 12 V/10.9 mA, 24 V/4.1 mA DI_1 to DI_4: Power supply shared ... 24 V/4.1 mA
	Digital Output	4 points × 4 channels Open collector and sink mode output (24 V/100 mA)
Module Power upply		24 VDC (20.4 V to 28.8 V), 500 mA max.
Dimension		46mm(W) × 130mm(H) × 108mm(D)

MECHATROLINK specifications

	M-III
Profile	Standard I/O
Data size	64byte
Transmission cycle	125µs, 250µs, 500µs, 1ms to 8ms (multiple of 0.5ms)

Contact Information

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MG Co., Ltd.

MECHATROLINK-II REMOTE I/O R7 Series

Features

- Compact, all-in-one modules
- A wide variety of sensor signal inputs
- Removable terminal blocks make the module replaceable without disconnecting wiring.
- Discrete I/O module can be attached to base analog module (R7ML Series)



Model No. Identification

R7ML Series

MODEL		FUNCTION	POWER / I/O CONNECTION
BASIC MODULE	R7ML-DA16	16-point contact input (NPN/PNP)	M3 screw terminal
	R7ML-DC16A	16-point transistor output (NPN)	M3 screw terminal
	R7ML-DC16B	16-point transistor output (PNP)	M3 screw terminal
	R7ML-DC16D	16-point transistor output (PNP, shortcircuit protection)	M3 screw terminal
	R7ML-SV4	4-point DC voltage/current input (isolated)	M3 screw terminal
	R7ML-TS4	4-point thermocouple input (isolated)	M3 screw terminal
	R7ML-RS4	4-point RTD input (isolated)	M3 screw terminal
	R7ML-LC2	2-point high speed strain gauge input (isolated)	M3 screw terminal
	R7ML-YV2	2-point DC voltage output (isolated)	M3 screw terminal
	R7ML-YS2	2-point DC current output (isolated)	M3 screw terminal
EXTENSION MODULE	R7ML-EA8	8-point extension contact input (NPN/PNP)	M3 screw terminal
	R7ML-EA16	16-point extension contact input (NPN/PNP)	M3 screw terminal
	R7ML-EC8A	8-point extension transistor output (NPN)	M3 screw terminal
	R7ML-EC16A	16-point extension transistor output (NPN)	M3 screw terminal
	R7ML-EC8B	8-point extension transistor output (PNP)	M3 screw terminal
	R7ML-EC16B	16-point extension transistor output (PNP)	M3 screw terminal
	R7ML-EC8D	8-point extension transistor output (PNP, shortcircuit protection)	M3 screw terminal
	R7ML-EC16D	16-point extension transistor output (PNP, shortcircuit protection)	M3 screw terminal

R7K4FML Series

MODEL	FUNCTION	POWER / I/O CONNECTION
R7K4FML-6-DA32	32-point contact input (NPN/PNP)	M3 screw terminal
R7K4FML-6-DCA32A	16-point transistor output (NPN) / 16-point contact input (NPN/PNP)	M3 screw terminal
R7K4FML-6-DC32A	32-point transistor output (NPN)	M3 screw terminal
R7K4FML-6-DC32B	32-point transistor output (PNP)	M3 screw terminal

R7K4DML Series

R7K4DML-B-DAC32A	16-point contact input (PNP) / 16-point transistor output (NPN)	Tension clamp terminal / e-CON connector
R7K4DML-B-DAC32B	16-point contact input (NPN) / 16-point transistor output (PNP)	Tension clamp terminal / e-CON connector
R7K4DML-B-DAC32C	16-point contact input (NPN) / 16-point transistor output (NPN)	Tension clamp terminal / e-CON connector
R7K4DML-B-DAC32D	16-point contact input (PNP) / 16-point transistor output (PNP)	Tension clamp terminal / e-CON connector

R7G4HML Series

R7G4HML-6-SVF4	4-point high speed DC voltage/current input (isolated)	M3 screw terminal
R7G4HML-6-YVF4	4-point high speed DC voltage output (isolated)	M3 screw terminal

MECHATROLINK specifications

R7ML / R7G4HML Series		M-I	M-II	
		17-byte	17-byte	32-byte
Command	Intelligent I/O	×	×	×
Transmission cycle		2ms	0.5ms, 1ms, 1.5ms, 2ms, 4ms, 8ms	

R7K4FML / R7K4DML Series		M-I	M-II	
		17-byte	17-byte	32-byte
Command	Intelligent I/O	×	×	×
Transmission cycle		2ms	0.25ms, 0.5ms, 1ms, 1.5ms, 2ms, 4ms, 8ms	

※2.5ms, 3ms available for R7K4DML

Contact Information

MG Co., Ltd.
13th floor, Tradepia Yodoyabashi, 2-5-8 Imabashi, Chuo-ku, Osaka 541-0042 JAPAN
TEL : +81-(0)6-7525-8801
FAX : +81-(0)6-7525-8810
E-mail : info@mgco.jp
URL : https://www.mgco.jp/

YASKAWA ELECTRIC CORPORATION

Slave Devices for MECHATROLINK- II

IO2310, IO2330, PL2900, PL2910, AN2900, AN2910

Features

Models:
JEPMC-PL2900 (Counter) / PL2910 (Pulse Output)
JEPMC-AN2900 (Analog Input) / AN2910 (Analog Output)

PL2900, PL2910, AN2900, AN2910



Specifications

Module Name	Item	Specifications
64-point I/O Modules (IO2310/IO2330)	I/O Signals	Input: 64 points, 24 VDC, 5 mA, sink/source mode input Output: 64 points, 24 VDC, 50 mA when all points ON* sink mode output (IO2310), source mode output (IO2330) *: The max. rating is 100 mA per point (depending on derating conditions).
Counter Module (PL2900)	Number of Input Channels	2
	Functions	Pulse counter, notch output
	Pulse Input Method	Sign+pulse (1/2 multipliers), A/B (1/2/4 multipliers), UP/DOWN (1/2 multipliers)
	Max. Counter Speed	1200 kpps (4 multipliers)
Pulse Output Module (PL2910)	Number of Output Channels	2
	Functions	Pulse positioning, JOG run, zero-point return
	Pulse Output Method	CW, CCW pulse, sign+pulse
	Max. Output Speed	500 kpps
Analog Input Module (AN2900)	Number of Output Channels	4
	Input Voltage Range	−10V to +10V
	Input Impedance	1MΩ min.
	Data Format (Binary)	−32000 to +32000
Analog Output Module (AN2910)	Number of Output Channels	2
	Output Voltage Range	−10V to +10V
	Max. Allowable Load Current	±5mA (2kΩ)
	Data Format (Binary)	−32000 to +32000

MECHATROLINK specifications

IO2310, IO2330

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Simple I/O	×	×	×
Transmission cycle		2ms	1ms, 1.5ms, 2ms	

PL2900, PL2910, AN2900, AN2910

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Simple I/O	×	×	×
Transmission cycle		2ms	1ms, 1.5ms, 2ms	

Contact Information

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YASKAWA ELECTRIC CORPORATION

Slave Devices for MECHATROLINK- II IO2900, IO2910, IO2920, IO2950

Features

Models:
JAMSC-IO2900-E (16-point Input) /IO2910-E (16-point Output)
JAMSC-IO2920-E (8-point I/O) /IO2950-E (Relay Output)

IO2900, IO2910, IO2920, IO2950



Specifications

Module Name	Item	Specifications
16-point Input Module (IO2900-E)	Number of inputs	16
	Voltage rating	12/24VDC
	Current rating	2.5mA/5mA
	Input type	Sink/source mode input
	External power supply	24VDC (20.4 to 28.8V), 90mA
16-point Output Module (IO2910-E)	Number of outputs	16
	Voltage rating	12/24VDC
	Current rating	0.3A
	Output type	Sink mode output
	External power supply	24VDC (20.4 to 28.8V), 110mA
8-point I/O Module (IO2920-E)	Number of I/O	Input: 8 Output: 8
	Voltage rating	12/24VDC
	Current rating	Input: 2.5mA/5mA Output: 0.3A
	I/O type	Input: Sink/source mode input Output: Sink mode output
	External power supply	24VDC (20.4 to 28.8V), 90mA
Relay Output Module (IO2950-E)	Number of outputs	8
	Voltage rating	12/24VDC, 100/200VAC
	Current rating	1.0A
	Output type	Contact output
	External power supply	24VDC (20.4 to 28.8V), 150mA

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Simple I/O	×	×	×
Transmission cycle		2ms	1ms, 1.5ms, 2ms	

Contact Information

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Azbil Corporation

High-Accuracy Position Sensors K1G-C04M

Features

- The controller, K1G-C04M supports MECHATROLINK-Ⅲ.
- It achieves high-speed at a baud rate of 100 Mbps and high-reliability communications, furthermore, realizes the synchronous communication.
- Only two wires are required between the PC/PLC and the K1G-C04M for wiring. You can reduce greatly wiring time and save space.
- Using the Pro-face GP4000 series allows the setting and checking of a parameters used by the K1G series.
- The Pro-face Remote HMI allows the setting and checking of parameters using a Wi-Fi-equipped tablet.



K1G-C04M

Specifications

Catalog listing			K1G-C04/K1G-C04G	K1G-C04M/K1G-C04MG
Compatible sensor			K1G-S□□	
Max. number of connected sensors			4	
Reading	Min. display unit		0.1 µm	
	Display range	With K1G-S07	0 to 7 mm -3.5 to +3.5mm can be selected	
		With K1G-S15	0 to 15 mm -7.5 to +7.5mm can be selected	
Measurement cycle (Output update cycle)			250µm/500µm/1ms (switchover)	
Analog output			4 outputs: 4-20 mA or 1-5 V (all outputs are switched over at once)	-
Digital output			8 outputs: NPN or PNP transistor (all outputs are switched over at once)	-
Digital input			4 inputs: non-voltage contacts and NPN or PNP open collector (all points are switched over at once)	-
Communications			RS-485 (Modbus RTU)	MECHATROLINK-Ⅲ
Supply power			DC12 to 24±10%	
Operating temperature			0 to 50°C (0 to 35°C if gang-mounted)	
Storage temperature			-20 to 70°C (without freezing)	
Operating humidity			30 to 85 % RH (without condensation)	
Vibration resistance			$2m/s^2$ (10 to 60 Hz), 2 h each in X, Y, and Z directions	
Protection circuit			Power reverse connection protection	

MECHATROLINK specifications

	M-III
Profile	Standard I/O
Data size	32byte, 48byte
Transmission cycle	0.25/0.5/1-64 ms [Selectable by 0.5ms]

Contact Information

Azbil Corporation Advanced Automation Company
Marketing Dept., Sensor Group2
1-12-2, Kawana, Fujisawa-shi, Kanagawa-ken, 251-8522, Japan
TEL : +81-466-20-2232
FAX : +81-466-20-2193
E-mail : n.kiire.uf@azbil.com
URL : http://www.azbil.com/

MICRO TECHNICA CO LTD.,

SimPrun-200

Features

MECHATROLINK-III
1.6M Cmos sensor
Simple , Compact



Specification

Spec		Input/Output	
Prosessor	Dual core ARM Cortex-A9	DIO	
Memory	512MB DDR3 800	Input	4 pont
Internal storage	8GB	Output	4 pont
外SD card	-	Interface	
FPGA	Intel 5CSEMA5U23	Ethernet	
Imager	CMOS Image sensor	Interface	Gigabit Ethernet PoE
Efective size	1,450 x 1,088	Transfer rate	1G bps（Max.）
Pixel size	5.00 x 3.75 mm	USB	-
Scanning mode	Progressive	MECHATROLINK	MECHATROLINK-III
Electric shtter mode	Global Shutter	Video format	
Trigger	External/Soft	format	Mono8,
Lenz mount	C mount	Video capture format	1,440 x 1080
		Frame rate	226fps (Mono8)

Image Processing

SimPrun-200 has the orignal image processing library made by Microtechnica .the user can make ther application with it and can install it to SimPrun-200 useing SDK.tSimPrun-200 would be the original vision sensor camera for the user.

Contact Information

MICRO-TECHNICA Co.,ltd.
3-12-2 Higashiikebukuro, Toshima-ku, Tokyo TEL : 03-6327-7558 FAX : 03-3986-2552
URL : http://www.microtechnica.co.jp

Phoenix Contact Inc.

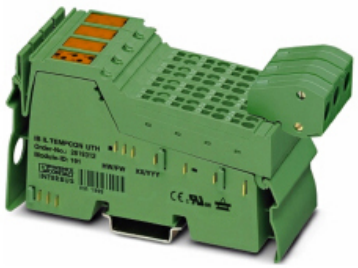
Temperature Control for Inline MECHATROLINK Bus Coupler

Features

The Inline multi-channel temperature controller is a freely parameterizable slave for the Inline installation system which controls up to 8 zones.

The temperature controller features

- Eight analog inputs for thermocouples
- Eight outputs 24 V DC at 70 mA
- Self-tuning feature
- Heating current and closed-loop control circuit monitoring
- Configuration via software engineering tool



IB TEMPCON UTH-PAC
IB TEMPCON RTD-PAC

Specifications

Item	Specifications
Part number	2861807 (UTH) 2861771 (RTD)
Network Interface	MECHATROLINK- Ⅰ and through IL M Ⅱ BK DI8 DO4-PAC
Degree of protection	IP-20
Number of Control Zones	8
Type of sensor connection	2-wire technology with or without shielding
Thermal Couple Type	Type B, C, D, E, J, K, L, N, R, S, T
Type of actuator connection	1-wire technology
Output voltage	24 V (70 mA, maximum)
Configuration Interface	V.24 (RS-232)

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Intelligent I/O	×	×	×
Transmission cycle		2ms	1ms, 1.5ms, 2ms	

Price

$924.00 USD

Contact Information

Phoenix Contact Inc.
P.O. Box 4100 Harrisburg, PA 17111-0100
TEL : +1-800-888-7388
FAX : +1-717-944-1300
E-mail : info@phoenixcon.com
URL : https://www.phoenixcontact.com/

YASKAWA ELECTRIC CORPORATION

Network Machine Vision System MYVIS YV260

Features

With the network machine vision system, the present positions of the servo's axes are constantly obtained, and the images are processed using the servo coordinates.

- Instant alignment (Positioning with no retries required.)
- Non-stop alignment (Object does not stop in front of camera.)
- Correspondence to the high-resolution camera (5,000,000 pixels)
- High-speed, high-precision image processing
- Preprocessing function with hardware
- Easily created application software
- Reduced wiring with networking

Models:

[Unit Type]
JEVSA-YV260A□-E (AC100V/200V)
JEVSA-YV260D□-E (DC24V)
□1: Analog 2: Digital

[Board Type]
JEVSA-YV260S□-E (DC12V)



MYVIS YV260

Specifications

Item		Specifications
Image Processing		Gray scale pattern matching, binary image analysis, preprocessing
Memory	Template Storage Memory	CF cards (2 GB max.), Required as external memory (Sold separately.)
	Image Memory-Frame Memory	4096 × 4096 × 8 bits × 4 images (640 × 480 × 8 bits × 192 images)
	Image Memory-Template Memory	16MB
Image Input	Camera Interface	Analog: New EIAJ 12-pin connector ×4 Four A/D conversion circuits
		Digtal: CameraLink 26-pin connector ×4
	Camera Sync Mode	Analog: internal/external sync Digital: internal sync
	Number of the camera pixels	Analog: 300,000 - 1,400,000 pixels Digital: 300,000 - 5,000,000 pixels
	Random Trigger Shutter Supported	Analog: Sync-nonreset, sync-reset, single VD or V reset
		Digital: Sync-nonrese
	Simultaneous number of taking	Four
Monitor	Monitor Output	VGA monitor (15-pin D-sub)
		VGA (640×480), XGA (1024×768)
	Image Display	Simultaneous reduction for two or four cameras, scalable, and binary display.
I/O	Network	MECHATROLINK-Ⅰ/Ⅱ, Ethernet (10BASE-T/100BASE-TX)
	Serial	RS-232C × 2 ch (9 pin D-sub) 1200 bps to 115200 bps
	Track Ball	USB mouse
	Parallel	16 general-purpose inputs and 4 specific inputs 16 general-purpose outputs and 2 specific outputs Photocoupler insulation

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Intelligent I/O	×	×	×
※Transmission cycle		2ms	0.5ms to 4.0ms	

※The transmission cycle time of the MYVIS is 2 ms.

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
YASKAWA has sales and after-sales service all around the world.
America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

RKC INSTRUMENT INC.

Module type digital temperature controller

Features

Multi-zone temperature control system can be easily achieved by connecting temperature control modules to a communication converter module for MECHATROLINK.
Temperature control module can be selected from 2-zone or 4-zone modules. Maximum of 31 temperature control modules (64 zones) can be connected.
Digital input/output modules can be also connected to handle contact signals for temperature alarm output and operation mode switching.
Module model code
Communication converter module: COM-MY
Temperature control module: Z-TIO
Digital input/output module: Z-DIO



SRZ

Specifications

Item	Specifications
Measuring input	Number of inputs: 2 points/module, 4 points/module Input type: Thermocouple, RTD, DC current, DC voltage *Universal input (Z-TIO)
Control method	PID control with autotuning, ON/OFF control (Z-TIO)
Control output	Relay contact output, Voltage pulse output 0/12V DC, Continuous DC voltage output DC current output, Triac output, Open collector output (Z-TIO)
Alarm	Temperature alarm, Heater break alarm, Control loop break alarm (Z-TIO)
Digital input	Number of input: 8 points/module Input method: Voltage contact input (Open: Less than 5V DC, Close: More than 17.5V DC) Function: Run/Stop, Remote/Local, Auto/Manual, Memory area selection, Alarm interlock reset (Z-DIO)
Digital output	Number of output: 8 points/module Output method: Relay contact output, Open collector output Function: Alarm output (Temperature alarm, Heater break alarm, Control loop break alarm) (Z-DIO)
Host communication	Communication method: RS-485, RS-422A Communication protocol: ANSI X3.28-1976 sub-category 2.5B4 (RKC standard)
Power supply	24V DC

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Intelligent I/O	×	×	×
Transmission cycle		2ms	1ms to 8ms	

Contact Information

RKC INSTRUMENT INC.
16-6 Kugahara 5 Chome Ohtaku Tokyo 146-8515 Japan TEL : +81-3-3751-9799 FAX : +81-3-3751-8585
URL : https://www.rkcinst.co.jp/english/

IAI America Inc.

ROBO Cylinder® Controller ACON/PCON/SCON Series (MECHATROLINK Type)

Features

- Easy operation of various types such as slider, rod, rotary and gripper types of electric actuator products is enabled using I/O operation from the network master (host PLC).



- For the position data creation, easy setting is enabled with the value entry using the PC software or teaching pendant, or direct teaching.
- The position can be moved to the destination that is specified using the values, and monitoring for the current position, speed or command-current value, etc., is enabled.

Model No. :
ACON-C/CG-□-ML-0-0 (□: Motor wattage)
PCON-C/CG-□-ML-0-0 (□: Motor flange size)
SCON-CA-□-ML-0-△
(□: Motor flange size , Encoder/△: Input Source Voltage)



ACON Series　PCON Series　SCON Series

Specifications

Item	Specifications
Control system	Positioner Operation with MECHATROLINK-Ⅰ/Ⅱ Intelligent I/O commands
Number of control axes	1 axis
Connected actuator	ACON Series : RCA/RCA2 Series actuator (Servo motor) PCON Series : RCP2/RCP3/RCP4 Series actuator (Stepper motor) SCON Series : RCS2/RCS3 Series actuator (Servo motor)
No. of Locating Position Table Points	(Maximum) 768 points (In the case of the operation with the direct value specification, the number of locating position table points is unlimited
Positioner Functions	Positioning operation, pitching (incremental) movement, pressing operation (movement with torque restriction), short-cut control, speed change during the movement
I/O Functions	Servo ON, Home return, Pausing input, Jog/Inching movement input, Alarm reset, Current position capturing, Positioning completion, Home return completion, Zone signal output, alarm output, Emergency stop status output, Current position/speed/command-current monitoring, etc.
Order Value Minimum Unit	Position Order : 0.01mm, Speed Order : 1mm/sec, Acceleration/Deceleration Order : 0.01G, Pressing Current Limit Value : 100% / 256 Levels (RCS2-RA13R : 200%)
Input Source Voltage	ACON, PCON Series : DC24V ±10% SCON Series : AC100 to 150V ±10% / AC200 to 230V ±10%
External dimensions(※)	ACON, PCON Series : Width 35mm, Depth 69mm, Height 178mm SCON Series (less than 400-watts) : Width 58mm, Depth 121mm, Height 194mm (over 400-watts) : Width 72mm, Depth 121mm, Height 194mm

(※) MECHATROLINK connector not included

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Intelligent I/O	×	×	×
Transmission cycle		2ms	1ms or more (Following the value in the master)	

Contact Information

IAI America, Inc
2690 W.237th Street Torrance. CA 90505　TEL : +1-310-891-6015　FAX : +1-310-891-0815
URL : http://www.intelligentactuator.com

ORIENTAL MOTOR Co.,Ltd.

Stepping Motor α STEP
AZ Series AC Power Input Driver
MECHATROLINK-III Compatible

Features

- MECHATROLINK-III compatible stepper driver can be connected.
- A motor based on a stepper motor that performs a unique hybrid control combining the benefits of open loop control and closed loop control.
- The motor is equipped with a battery-less multi-rotation absolute encoder. Various merits include operation without a battery, return-to-home or external sensors.
- Temperature and travel amount can be monitored in addition to basic information such as motor position, speed and load. This information can be used for monitoring status and predictive maintenance of machines.



αSTEP AZ Series

Specifications

Item		Specifications
MECHATROLINK communications	Protocol	MECHATROLINK-III
	Baud Rate	100Mbps
	Transmission cycle	0.5ms to 4.0ms (increments of 0.5ms)
	Communication cycle	0.5ms to 32ms (increments of 0.5ms)
	Node address	03h to EFh (initial value: 03h)
Command method (Operation function)		Interpolation feed (INTERPOLATE), Positioning (POSING), Constant-speed feed (FEED), Positioning at Constant-speed by external input (EX_FEED), Positioning by external input (EX_POSING), Return-to-home (ZRET)
Monitor		Command position, Command speed, Feedback position, Feedback speed, Alarm code, Status of driver
I/O signals	Input signal	Input: 4 points (Signal allocation can be changed) Forward drive prohibition Input (FW-BLK), Reverse drive prohibition Input(RV-BLK), Homing deceleration switch Input (DEC), Latch Input1 (EXT1)
	Output signal	Output: 3 points (Signal allocation can be changed) Alarm Output (ALM-B), Driver ready completed Output (READY), Motor operating Output (MOVE)
Power supply	Main power supply	Single-phase 100-120V -15 to +6% (50/60Hz) ： 2.7～6.4A Single-phase 200-240V -15 to +6% (50/60Hz) ： 1.6～3.9A Three-phase 200-240V -15 to +6% (50/60Hz) ： 1.0～2.3A
	Control power supply	DC24V±5% Power supply current capacity ： 0.25A (0.5A for motor with electromagnetic brake.)
Operating ambient temperature and humidity		Ambient temperature : 0 to+55°C (+32 to +131°F) (non-freezing) Humidity ： 85% or less (non-condensing)

MECHATROLINK specifications

	M-III
Profile	Standard Stepping Motor Drivers
	Standard servo
Data size	32byte, 48byte
Transmission cycle	0.5ms to 4ms (increments of 0.5ms)

Contact Information

ORIENTAL MOTOR CO.,Ltd.
4-8-1 Higashiueno,Taito-ku,Tokyo 110-8536 Japan TEL : +81-3-6744-0351 FAX : +81-3-5826-2575
URL : https://www.orientalmotor.co.jp/

ORIENTAL MOTOR Co.,Ltd.

Stepping Motor α STEP
AZ Series Axes Driver
MECHATROLINK-III Compatible

Features

- MECHATROLINK-III compatible multi-axis driver to which 2, 3, and 4 axes can be connected.
- A motor based on a stepper motor that performs a unique hybrid control combining the benefits of open loop control and closed loop control.
- The motor is equipped with a battery-less multi-rotation absolute encoder. Various merits include operation without a battery, return-to-home or external sensors.
- Temperature and travel amount can be monitored in addition to basic information such as motor position, speed and load. This information can be used for monitoring status and predictive maintenance of machines.



αSTEP AZ Series

Specifications

Item		Specifications
MECHATROLINK communications	Protocol	MECHATROLINK-III
	Baud Rate	100Mbps
	Transmission cycle	0.5ms, 1.0ms, 2.0ms, 4.0ms
	Communication cycle	0.5ms to 32ms (increments of 0.5ms)
	Node address	03h to EFh (initial value: 03h) ※AS for the master controller, extended address-compliant is required.
Command method (Operation function)		Interpolation feed (INTERPOLATE), Positioning (POSING), Constant-speed feed (FEED), Positioning at Constant-speed by external input (EX_FEED), Positioning by external input (EX_POSING), Return-to-home (ZRET)
Monitor		Command position, Command speed, Feedback position, Feedback speed, Alarm code, Status of driver
I/O signals	Input signal	Input: 4 points (Signal allocation can be changed) Forward drive prohibition Input (FW-BLK), Reverse drive prohibition Input(RV-BLK), Homing deceleration switch Input (DEC), Latch Input1 (EXT1)
	Output signal	Output: 3 points (Signal allocation can be changed) Alarm Output (ALM-B), Driver ready completed Output (READY), Motor operating Output (MOVE)
Power supply	Main power supply	DC24V±10% or DC48V±10% Power supply current capacity: 7.0A
	Control power supply	DC24V±10% Power supply current capacity 2-axis: 1.0A, 3-axis: 1.25A, 4-axis: 1.5A
Operating ambient temperature and humidity		Ambient temperature : 0 to+50°C (+32 to +122°F) (non-freezing) Humidity: 85% or less (non-condensing)

MECHATROLINK specifications

	M-III
Profile	Standard Stepping Motor Drivers
	Standard servo
Data size	32byte, 48byte
Transmission cycle	0.5ms to 4ms (increments of 0.5ms)

Contact Information

ORIENTAL MOTOR CO.,Ltd.
4-8-1 Higashiueno,Taito-ku,Tokyo 110-8536 Japan
TEL : +81-3-6744-0351
FAX : +81-3-5826-2
URL : https://www.orientalmotor.co.jp/

ORIENTAL MOTOR Co.,Ltd.

Network Converter for Controlled Motors

NETC01-M3

Features

NETC01-M3 converts MECHATROLINK-III communication protocol to RS-485 communication protocol.

With NETC01-M3, you can transparently control up to 16 of our RS-485 products by Standard I/O commands from a MECHATROLINK-III master.

In addition to stepping motors, wide variety of products such as sliders, cylinders, and blushless motors will be able to connect to NETC01-M3 in the future.



NETC01-M3

Specifications

Item		Specifications
Baud Rate		10Mbps
Communication Cycle		0.5ms / 1.0ms / 1.5ms / 2.0ms / 2.5ms / 3.0ms / 3.5ms / 4.0ms / 8.0ms
Station Address		03h to 0EFh
Corresponding Profile		MECHATROLINK-III I/O M-III standard
RS-485 Communication Specification	Electric characteristics	In conformance with EIA-485
	Baud Rate	625kbps
	Physicallayer	Asynchronous mode (8 bits, 1 stop bit, no parity)
	Protocol	GW Protocol Ver.2 (Open protocol established by ORIENTAL MOTOR Co.,Ltd.)
Connection pattern		16 units Max.

MECHATROLINK specifications

	M-III
Profile	Standard I/O
Data size	16, 32, 48, 64byte
Transmission cycle	0.5ms, 1.0ms, 1.5ms, 2.0ms, 2.5ms, 3.0ms, 3.5ms, 4.0ms, 8.0ms

Contact Information

ORIENTAL MOTOR CO.,Ltd.
4-8-1 Higashiueno,Taito-ku,Tokyo 110-8536 Japan TEL : +81-3-6744-0351 FAX : +81-3-5826-2575
URL : https://www.orientalmotor.co.jp/

ORIENTAL MOTOR Co.,Ltd.

Network Converter for Controlled Motors

NETC01-M2

Features

NETC01-M2 converts MECHATROLINK-Ⅱ communication protocol to RS-485 communication protocol.
With NETC01-M2, you can transparently control up to 16 of our RS-485 products by intelligent I/O commands from a MECHATROLINK-Ⅱ master.
In addition to stepping motors, wide variety of products such as sliders, cylinders, and blushless motors will be able to connect to NETC01-M2 in the future.



NETC01-M2

Specifications

Item		Specifications
Baud Rate		10Mbps
Communication Cycle		0.5ms / 1.0ms / 1.5ms / 2.0ms / 2.5ms / 3.0ms / 3.5ms / 4.0ms / 8.0ms
Station Address		60h to 7Fh
Corresponding Profile		Intelligent I/O
RS-485 Communication Specification	Electric characteristics	In conformance with EIA-485
	Baud Rate	625kbps
	Physicallayer	Asynchronous mode (8 bits, 1 stop bit, no parity)
	Protocol	GW Protocol Ver.2 (Open protocol established by ORIENTAL MOTOR Co.,Ltd.)
Connection pattern		16 units Max.

MECHATROLINK specifications

		M-Ⅰ	M-Ⅱ	
		17-byte	17-byte	32-byte
Command	Intelligent I/O	×	×	×
Transmission cycle		2.0ms	0.5ms, 1.0ms, 1.5ms, 2.0ms, 2.5ms, 3.0ms, 3.5ms, 4.0ms, 8.0ms	

Contact Information

ORIENTAL MOTOR CO.,Ltd.
4-8-1 Higashiueno,Taito-ku,Tokyo 110-8536 Japan TEL : +81-3-6744-0351 FAX : +81-3-5826-2575
URL : https://www.orientalmotor.co.jp/

MYCOM, INC.

2-Phase NanoDrive™ Stepping Motor Driver

Features

- Nano Resolution up to 200,000 Steps per Revolution.
- 16 Different Resolution Modes from 1 Full Step to 1/1000th Step.
- Event output (hard output) is available at the time of designated pulse attainment.
- Closed loop is available with encoder input.



MLN20-110/210

Specifications

Item	Specifications
Network Interface	MECHATROLINK-Ⅰ and MECHATROLINK-Ⅱ
Action function	Fast feeding positioning, Constant feeding, Interpolation feeding, Home searching, External input positioning
Monitor	Current position, Action speed, Encoder counting value, Driver condition
Control function	Near positioning output, Electric gear, Software limit, Auto-backlash correction, Closed control
Input signal I/F	Deceleration limit, Home, Forward rotation prohibition, Reverse rotation prohibition, External clutch (three), Stop
Output signal I/F	Alarm , Brake , Event , SensorOn
Encoder I/F	A/B/Z phases
Applicable motor	2-Phase Stepping Motor PF264-A (B), PF265-A (B), PF268-A (B), PF464-02A (B), PF466-02A (B), PF468-02A (B)
Resolution	Basic step is divided by: 1, 2, 2.5, 5, 8, 10, 20, 25, 40, 50, 100, 125, 200, 250, 500 or 1000
Driver Type	NanoDrive™, Star Bi-Polar, Constant Current Chopper
Phase Current	MLN20-110 : 1.0A/Phase / MLN20-210 : 2.0A/Phase
Input Voltage	AC 100 to 120V ± 10%

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Stepping Motor Drivers	×	×	×
Transmission cycle		2ms	0.5ms to 8ms	

Contact Information

MYCOM, INC.

Head Office	1-29, Ohara, Goryo, Nishikyo, Kyoto 651-8245, Japan	TEL : +81-75-382-1580	FAX : +81-75-382-1570
Tokyo Office	1-8 Suda-cho, kanda, Chiyoda-ku, Tokyo 101-0047, Japan	TEL : +81-3-3251-5415	FAX : +81-3-3251-5485
Sigapore		TEL : +65-6743-4476	FAX : +65-6743-4576
Taiwan		TEL : +886-2-2778-9021	FAX : +886-2-2778-9750

E-mail : support@mycom-japan.co.jp
URL : http://www.mycom-japan.co.jp/

MYCOM, INC.

5-Phase NanoDrive™ Stepping Motor Driver

Features

- Nano Resolution up to 500,000 Steps per Revolution.
- 16 Different Resolution Modes from 1 Full Step to 1/1000th Step.
- Event output (hard output) is available at the time of designated pulse attainment.
- Closed loop is available with encoder input.



MLN50-110/120

Specifications

Item	Specifications
Network Interface	MECHATROLINK-Ⅰ and MECHATROLINK-Ⅱ
Action function	Fast feeding positioning, Constant feeding, Interpolation feeding, Home searching, External input positioning
Monitor	Current position, Action speed, Encoder counting value, Driver condition
Control function	Near positioning output, Electric gear, Software limit, Auto-backlash correction, Closed control
Input signal I/F	Deceleration limit, Home, Forward rotation prohibition, Reverse rotation prohibition, External clutch (three), Stop
Output signal I/F	Alarm, Brake, Event, SensorOn
Encoder I/F	A/B/Z phases
Applicable motor	5-Phase Stepping Motor PCE5641-AC (BC), PCE5661-AC (BC), PCE5691-AC (BC), PCE5961-AC (BC), PCE5991-AC (BC), PCE59131-AC (BC)
Resolution	Basic step is divided by: 1, 2, 2.5, 5, 8, 10, 20, 25, 40, 50, 100, 125, 200, 250, 500 or 1000
Driver Type	NanoDrive™, Star Bi-Polar, Constant Current Chopper
Phase Current	1.4A/Phase
Input Voltage	AC 100 to 120V ± 10% (MLU50-110), AC 200 to 220V ± 10% (MLU50-120)

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Stepping Motor Drivers	×	×	×
Transmission cycle		2ms	0.5ms to 8ms	

Contact Information

MYCOM, INC.

Head Office	1-29, Ohara, Goryo, Nishikyo, Kyoto 651-8245, Japan	TEL : +81-75-382-1580	FAX : +81-75-382-1570
Tokyo Office	1-8 Suda-cho, kanda, Chiyoda-ku, Tokyo 101-0047, Japan	TEL : +81-3-3251-5415	FAX : +81-3-3251-5485
Sigapore		TEL : +65-6743-4476	FAX : +65-6743-4576
Taiwan		TEL : +886-2-2778-9021	FAX : +886-2-2778-9750

E-mail : support@mycom-japan.co.jp
URL : http://www.mycom-japan.co.jp/

Schneider Electric Japan Holdings Ltd.

GP4000 Series

Features

GP4000 series offers touch screen displays with extensive simultaneous multi-protocol connectivity.
All models in the GP4000 series feature a power-saving 65,536-color TFT display. We accomplished a maximum reduction in power consumption of 84% (compared to previous 12.1” and 10.4” models when using our lighting adjustment function). Previously only our high-end models had a 65,536-color TFT LCD-now the whole lineup of the GP4000 series adopts the 65,536-color TFT display as a standard feature. This offers higher visibility at production sites, and thus contributes to reducing human errors and oversights, as well as enabling more efficient operation and display.



GP4000 Series

Specifications

	Standard Model	W Model
Display Size	3.5” to 12.1”	3.5” to 10.4”
Application Memory	16MB to 32MB	8MB to 16MB
Rated Voltage	DC24V/AC100 to 240V	DC24V
Customizing	Coating: Yes Color: Yes	Coating: Yes Color: Yes

Contact Information

Schneider Electric Japan Holdings Ltd.
Schneider Electric Osaka Building, 4-4-9 Kitahama, Chuo-ku, 541-0041 Osaka
TEL : +81-(0)570-056-800
FAX : +81-(0)6-208-3134
E-mail : support@proface.co.jp
URL : https://www.proface.com/

Schneider Electric Japan Holdings Ltd.

SP5000 Series

Features

SP5000 Series is the first Smart Portal product for satisfying customers' needs utilizing large volumes of data and connecting securely both upper networks (office) and lower networks (factory).



SP5000 Series

The SP5000 Series is an interface terminal that can be integrated as a display unit on an operation panel.
Equipped with 2 Ethernet ports, the SP5000 Series can easily and securely create segmented networks.
In addition, SP5000 can stably process production-related big data by combining in one unit the reliability of an HMI and the versatility of an IPC compatible with Windows applications.

Specifications

Premium Display	Screen size: 10" to 15" 16,777,216 color Rated Voltage: DC12V to DC24V
Advanced Display	Screen size: 7" to 12" 262,144 color Rated Voltage: DC12V to DC24V

× Available in 13 patterns

Open Box	Application Memory: 64MB (CFast Card) Backup Memory: NVRAM 320KB
Power Box	Application Memory: 64MB (SD Card) Backup Memory: NVRAM 320KB

Contact Information

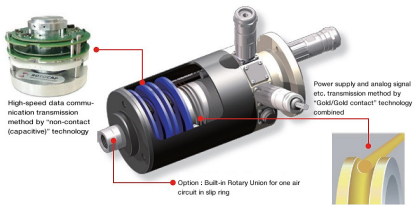
Schneider Electric Japan Holdings Ltd.
Schneider Electric Osaka Building, 4-4-9 Kitahama, Chuo-ku, 541-0041 Osaka
TEL : +81-(0)570-056-800
FAX : +81-(0)6-6208-3134
E-mail : support@proface.co.jp
URL : https://www.proface.com/

SEAL TECH INC.

「ROTOCAP」-GAT® Slip Ring for MECHATROLINK-III

Features

- Non-contacting, capacitive data transmission for 100Mbps Fast Ethernet
- Maintenance-free slip ring
- Combined with contacting gold/gold technology for power supply etc.
- For all standard 100BASE-TX protocols
- High resistance against EMI and ESD



ROTOCAP series

Specifications

Item	Specifications
Housing outer diameter	φ160mm
Supported protocols	100BASE-TX (Fast Ethernet, EtherCAT, Profinet, POWERLINK, SercosⅢ, MECHATROLINK-Ⅲ)
Bit error rate max.	$<1\times10^{-12}$
Latency [μs]	<2μs
Operating temperature	−40°C to +80°C
Supply voltage [VDC]	5, 12, 24VDC
Typical life span	Non-contacting portion / Maintenance-free Gold / Gold contact portion / 100 mil. Rotations
Protection class	IP64 (standard) up to IP65
Option	One air channel available in slip ring unit

Contact Information

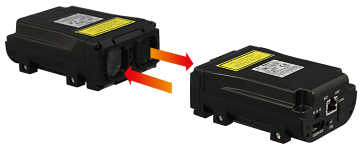
SEAL TECH INC.
Head office SHIN-YOKOHAMA IC BLDG. 8F 18-9, SHIN-YOKOHAMA 3-CHOME, KOHOKU-KU, YOKOHAMA-SHI, KANAGAWA 222-0033, JAPAN TEL : +81-45-473-7001 FAX : +81-45-473-7017
E-mail : sales@sealtech.co.jp
URL : http://www.sealtech.co.jp

HOKUYO AUTOMATIC CO., LTD.

Optical repeater for MECHATROLINK-III

Features

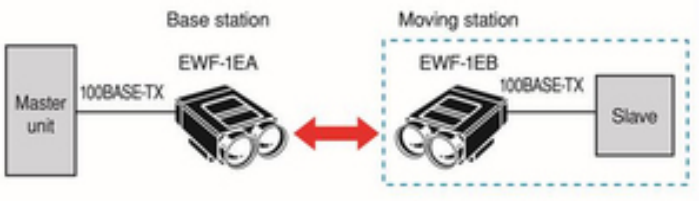
This device is an optical repeater with 100Mbps transmission speed. It can be directly connected to MECHATROLINK-III network. Its transmission distance is Max. 100m.
This wireless optical communication enables the non-contact communication between mobile machines. There will be no concerns about cable damages because cables will not be used for communication between the two repeaters.



EWF-0,1EA/B-N

Specifications

Item	Specifications	
Model No.	EWF-0EA/B-N	EWF-1EA/B-N
Transmission distance	50m	100m
Directional angle	Full angle 1.4°	Full angle 1.0°
Power sourceF	24VDC (±10%)	
Current consumption	120mA (24VDC)	
Laser safety standard	Class 1	
Transmission system	Full-duplex two-way transmission	
Transmission speed	100Mbps	
Interface	Ethernet	
Communication standard	IEEE802.3u 100BASE-TX Auto-negotiation compliant	
Modulation system	Direct modulation	
Connection	Mini clamp connector (Power/CD signal), Modular jack RJ-45 (Ethernet)	
Reception output (CD)	Photo-coupler open-collector (Withstand pressure 36V), ON when receiving light (Max.50mA, residual voltage 1.5V)	
Level voltage output (Analog output)	Approx.0 to 3V, connector S2B-PH-K-S (JST) This is available only when adjusting the optical axis. External wiring is forbidden.	
Ambient illuminance	10,000 lux or less to (Halogen/mercury lamp)	
Ambient temperature	-10°C to +50°C	
Ambient humidity	85%RH or less (non icing)	
Impact resistance	490m/s^2, Each 10 times in X, Y and Z directions	
Vibration resistance	Double amplitude 1.5mm, 10 to 55Hz, each 2 hours in X, Y and Z direction	
Protective structure	IP40	



Contact Information

HOKUYO AUTOMATIC CO., LTD.
International Sales Dept. Higobashi Union Building, 1-9-6 Edobori, Nishi-ku, Osaka, 550-0002 Japan TEL : +81-6-6441-2239 FAX : +81-6-6441-2204
E-mail : info@hokuyo-aut.jp
URL : http://www.hokuyo-aut.jp

YASKAWA ELECTRIC CORPORATION

HUB module for MECHATROLINK-III MT2000

Features

- MT2000 enables mixture of star connection and star connection and the cascade connection in a hub module for MECHATROLINK-III.
- MT2000 has a port for master module, and 8 ports for slave modeules.The star connection can shorten delay line than cascade connection.

Model:
JEPMC-MT2000-E (MT2000)



MT2000

Specifications

Item	Specifications
Data Transfer Method	MECHATROLINK-III
Baud Rate	100Mbps
Transmission Medium	MECHATROLINK-III cable model JEPMC-W6012-□□-E
Number of MECHATROLINK Ports	Master-side port: 1 (CNM1) to connect the master station Slave-side port: 8 (CNS1 to CNS8) to connect slave stations
Arbiteration	FIFO arbiteration discipline Error when multiple slave-side ports receive data at the same time
Transmission Delay Time between Ports	600ns (typ)
Indicators	1 indicator for power supply ON/OFF, 9 indicators for port link status
External Power Supply	+24VDC (±20%) 0.5A (CN1)
Installation Orientation	Vertical or horizontal
Dimensions (mm)	185 (H) × 50 (W) × 115 (D)
Mass	0.8kg
Exterior	Painted

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
YASKAWA has sales and after-sales service all around the world.
America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

TOYO ELECTRIC CORP.

TOYO ELECTRIC CORP. MECHATROLINK- II (Under development)

Features

Space Optical Transfer Unit corresponding to MECHATROLINK- II .
I realize the reliable wireless communication that was not able to be realized in infrared rays by the wireless communication of the electric wave method.
Space Optical Transfer Unit for MECHATROLINK suggests “the ultimate wiring that can solve problems such as guidance of the wiring or the extension of the communications distance-saving” for the FA device in the next generation.



Specifications

Item	Specifications
Control method	A Optical repeater by MECHATROLINK- II
Transmission rate	10Mbps
Power voltage	Rated voltage : 24VDC
Connected to	MECHATROLINK- II I/F
Transmission distance	from 0.2m to 100m

Note : The sale time / a model / the price is undecided because of a product is under development examination inside now.

Contact Information

TOYO ELECTRIC CORP.
ELECTRIC DEV. 1-39 HIKISAWA KAGIYA-CHO KASUGAI-CITY Aichi, 480-0393, Japan TEL : +81-568-88-1181 FAX : +81-568-88-3086
URL : http://www.toyo-elec.co.jp/en/

YASKAWA ELECTRIC CORPORATION

Repeater for MECHATROLINK- II JEPMC-REP2000

Features

The JEPMC-REP2000 is the repeater for MECHATROLINK- II . It expands the network and increases the number of slaves which can be connected.
The REP2000 has two MECHATROLINK- II connection ports. One is at the end of the master network side and the other is at the beginning of the expanded side. The ports have no functional differences, and incorporate a termination resistor.
Receiving signal wave distortion due to reflections or noise on the transmission routes is removed by the internal circuit, resulting in correct waveform transmission.



JEPMC-REP2000

Specifications

Item	Specifications
Applied communication method	MECHATROLINK- II
Master side port	Master side network connection 50m up to 14 slaves or 30m with 15 slaves However, the number of slaves which are allowed connection should be supported by the master product specifications.
Expanded side port	Expanded side network connection 50m up to 15 slaves or 30m with 16 slaves However, the number of slaves which are allowed connection should be supported by the master product specifications.
Indicator	LED 3 points (Power ON during transmission for both master side and slave side)
External power	+24VDC (+19.2 to +28.8V), 100mA
Dimensions	Width 30mm × Height 160mm × Depth 77mm

Note: One Network allows the connection of only one repeater.

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
YASKAWA has sales and after-sales service all around the world.
America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

KEYENCE CORPORATION

MECHATROLINK-III communication cable

Features

- MECHATROLINK-III cable (RJ45 on both ends)
  →0.2m/0.5m/1m/3m/5m/10m/20m
- MECHATROLINK-III cable (RJ45/IMI conversion)
  →0.5m/1m/3m/5m/10m/20m
- Selectable as required connector on the controller and servo amplifier.



SV2-Lxx (RJ45 on both ends)
SV2-LxxA (RJ45/IMI conversion)

Specifications

Item	Specifications
Transmission media/cable	Category 5e-compliant, STP cross cable
Cable color	Green
Connector	SV2-Lxx: RJ45 on both ends SV2-LxxA: RJ45 and IMI

Contact Information

KEYENCE CORPORATION
1-3-14, Higashinakajima Higashiyodogawa-ku, Osaka 533-8555, Japan
TEL : +81-6-6379-1271
FAX : +81-6-6379-1270
E-mail : seigyo-qa@keyence.co.jp
URL : http://www.keyence.co.jp

JMACS Japan Co., Ltd.

MECHATROLINK-III Communication Cable (Movable)

Features

- RX-PNET/C Cables are industrial Ethernet cables with shielding and EMI protection and used for MECHATROLINK-Ⅲ.
  1. Communication characteristic.
     ・Meets electrical frequency standard of ISO/IEC11801 (Cat.5) and TIA/EIA-568C.2 (Cat.5e)
  2. Complies with UL and cUL standards.
     ・AWM 20276, CSA C22.2 No.210
  3. Bending resistant.
     ・90 degrees left and right bending cycle test. Passed bending test of 10 million times or more.
  4. Environmental characteristic-resistant.
     ・Standard jacket material is oil and heat-resistant PVC.(Complies with RoHS directive)
  5. Others
     ・Length marks imprinted on the cable make measuring easy.



RX－PNET/C

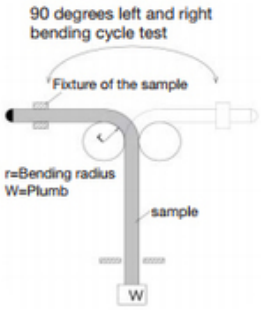
Specifications

Item	Specifications
Conductor size	27AWG (0.1mm^2, Special conductor)
Number of cores	2p (4c)
Insulation color	White, Yellow, Blue, Orange
Shield	AL/PET + Braided shield
Jacket color (standard)	Blue
Cable outer diameter (mm)	Approx. 4.5
Approximate weight (kg/km)	30
Transmission distance (at 20°C)	30m
Use connectors	Industrial mini I/O connector, RJ-45 connector

Cross Section



※I cut it into length you like and sell the cable with the connector. Please talk.



Contact Information

JMACS Japan Co., Ltd.

Head office/Osaka Office	11F KM Nishiumeda bldg, 7-20-1 Fukushima, Fukushima-ku, Osaka-city, Osaka, 553-0003	TEL : +81-6-4796-0080	FAX : +81-6-4796-0090
Tokyo Office	4F Halifax kudan bldg, 2-4-4 Kudanminami, Chiyoda-ku, Tokyo, 102-0074	TEL : +81-3-3239-5204	FAX : +81-3-3556-1240

E-mail : otoiawase@jmacs-j.co.jp
URL : http://www.jmacs-j.co.jp/en/

JMACS Japan Co., Ltd.

MECHATROLINK-III Network cable

Features

PNET/B from JMACS is a industrial Ethernet cable with the necessary shielding and EMI protection for MECHATROLINK-Ⅲ.

1. Transmission characteristic
   - ISO/IEC11801 (Cat.5), TIA/EIA-568C.2 (Cat.5e)
2. Safety Standard
   - UL/c-UL Listing (UL444 CM, CSA C22.2 No.214)
3. Environmental Regulation
   - Lead-Free, Oil and heat resistant PVC jacket
   - RoHS Directive REACH Regulation (SVHC)
4. Other Features
   - Excellent flexibility
   - Length marks imprinted on the cable make measuring easy.

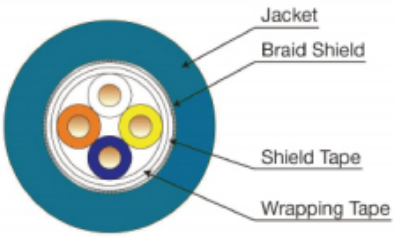


PNET/B

Specifications

Item	Specifications
Cross Sectional Area	22AWG (0.34mm^2, Stranded Conductor)
No. of core	2p (4c)
Insulation color	White, Yellow, Blue, Orange
Shield	AL/PET+Braid
Jacket color	Blue
Overall diameter (mm)	Approx. 6.5
Approx.Mass (kg/km)	60
Max.Transmission Distance (m)	100
Connector	Industrial Mini I/O Connectors, RJ-45

Cross-Section of Cable



※Also available cable with connectors.
Please contact us.

Contact Information

JMACS Japan Co., Ltd.

Head office/Osaka Office	11F KM Nishiumeda bldg, 7-20-1 Fukushima, Fukushima-ku, Osaka-city, Osaka, 553-0003	TEL : +81-6-4796-0080	FAX : +81-6-4796-0090
Tokyo Office	4F Halifax kudan bldg, 2-4-4 Kudanminami, Chiyoda-ku, Tokyo, 102-0074	TEL : +81-3-3239-5204	FAX : +81-3-3556-1240

E-mail : otoiawase@jmacs-j.co.jp
URL : http://www.jmacs-j.co.jp/en/

Tyco Electronics Japan G.K.

MECHATROLINK-III Connector KIT
P/N 2040008-2

Features

- Connector Kit specially designed for MECHATROLINK-III
- The connector for the cable to be applied on one end is packed in a package.
- Crimp tool for the shield is available.
- A RoHS compliant product.



1891800-1



2040008-2

Specifications

• Specially designed for MECHATROLINK-III
• Acceptable wire: DYDEN CORPORATION (RS-M 20276 AWG 22/4C).
• Please refer to the instruction sheet 114-5431 for the correct installation of the connector to the cable.
• Mini Press with Die kit P/N 1891800-2 for the shields is also available.

Contact Information

Tyco Electronics Japan G.K.
Communications & Industrial Solutions (CIS)

Japan - Kawasaki	3-5-8 Hisamoto, Takatsuku, Kawasaki City, Kanagawa	TEL : +81-44-844-8111
China - Shanghai		TEL : +86-21-6485-0000
Germany - Bensheim		TEL : +49-6251-133-0
United States - Harrisburg, PA		TEL : +1-717-564-0100
Korea - Seoul		TEL : +82-2-3415-4500
Italy - Torino		TEL : +39-011-401-2111

Tyco Electronics Japan G.K.

MECHATROLINK-III Connector KIT Bulk Pack Style
P/N 2069578-2

Features

- 1000 sets of connector kits specially designed for MECHATROLINK-III
- 1000 sets of the connectors to be applied on the one end of the cable are packed in a box.
- Crimp tool for the shied is available.
- A RoHS compliant product



2069578-2
1000 set - pack

Specifications

• Specially designed for MECHATROLINK-III
• Applicable wire: DAIDEN Co., Ltd (RS-M3 20276 AWG 22/4C)
• The instruction sheet 114-5431 contains information essential for proper assembly of the connector.
• Mini Press with Die kit P/N 1891771-2 for the shields is also available.

Contact Information

Tyco Electronics Japan G.K.
Communications & Industrial Solutions (CIS)

Japan - Kawasaki	3-5-8 Hisamoto, Takatsuku, Kawasaki City, Kanagawa	TEL : +81-44-844-8111
China - Shanghai		TEL : +86-21-6485-0000
Germany - Bensheim		TEL : +49-6251-133-0
United States - Harrisburg, PA		TEL : +1-717-564-0100
Korea - Seoul		TEL : +82-2-3415-4500
Italy - Torino		TEL : +39-011-401-2111

DYDEN CORPORATION

Cable for MECHATROLINK-III

Features

- MECHATROLINK-III conformity
- Oil-resistant, Flame-retardant Jacket
- UL Recognized Component (AWM style 20276)
- Stationary wiring of equipment

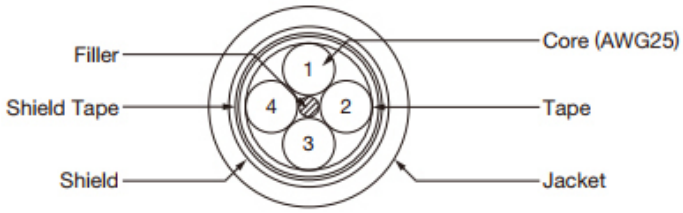


RS-MIII (20276) AWG22/4C

Specifications

Item	Specifications
Size	AWG22×4Core
Insulation color	Orange・White・Yellow・Blue
Insulation diameter (mm)	1.50
Jacket color	Blue
Overall diameter (mm)	6.4（max 6.7）
Approx. Mass (kg/km)	65
Dielectric strength (V/min)	AC 500
Impedance (Ω)	85 to 115 (at 1 to 100MHz)

Cross-Section of Cable



CoreNo.	Color
1	Orenge
2	White
3	Yellow
4	Blue

MECHATROLINK specifications

Matching Connector Kit : 2040008-2 (Tyco Electronics Japan G.K.)

Contact Information

DYDEN CORPORATION

U.S.A. Sun-Wa Technos America, Inc.	Woodfield Executive Plaza 1051 Perimeter Drive, Suite 625, Schaumburg, IL., 60173, U.S.A.	TEL : +1-847-969-0081	FAX : +1-847-969-0083
EUROPE Sun-Wa Technos (Europe) GmbH	Kaiserstr. 7, D-60311 Frankfurt am Main, Germany	TEL : +49-69-1338-950	FAX : +49-69-1338-9511
CHINA Shanghai Sun-Wa Technos Co., Ltd.	Room 1205, South Tower, Hongkong Plaza, 283 Huaihai zhong Rd. Shanghai, P.R.C.	TEL : +86-21-6390-6600	FAX : +86-21-6390-6590
OTHERS Sun-Wa Technos Corporation	Sanno Office Yamada Sanno Building, 14-3, 4-Chome, Sanno, Ota-ku, Tokyo 143-8560 Japan	TEL : +81-3778-1225	FAX : +81-3776-8330

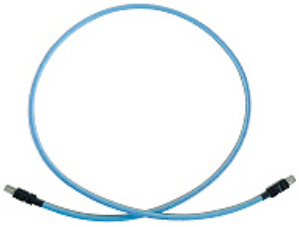
URL : http://www.dydencables.com/

Nichigoh Communication Electric Wire Co., Ltd.

MECHATROLINK-III Network Cables

Features

① Safety Standard : Refar to Cable Standard
② Characteristic for Communication : ISO/IEC 11801 2nd, TIA/EIA 568B Cat5e
③ Oil resistance : Oil resistant PVC sheath
④ Conductor Composition : Concentric-lay-stranded
⑤ Insertion loss : ≤18.0dB/100m (100MHz)
⑥ Environmental Regulation : RoHS Directive



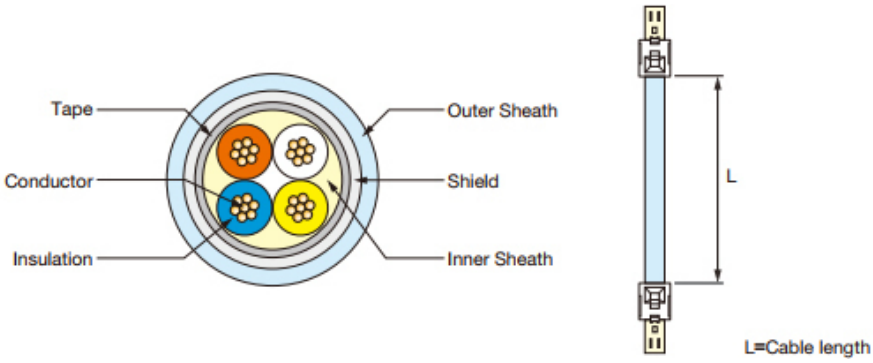
ML3-C0005

Specifications

Item	Specifications
Cross Sectional Area	0.34mm^2 (22AWG)
No.of core	4c
Sheald	Braid
Cable Color	Light Blue
Max. Transmission Distance	100m
Connector	Industrial Mini Connectors

Cable Standard

Item	Safety Standard
CE	ISO/IEC 11801
UL (Listing)	UL 444
c-UL (Listing)	CSA C22.2 No.214
UL(AWM)	UL758 AWM Style 20276
GOST-R	GOST 18404.0



Product model	Cable length
ML3-C0002	0.2m
ML3-C0005	0.5m
ML3-C0030	3m
ML3-C0050	5m
ML3-C0100	10m
ML3-C0300	30m

Contact Information

Meiho Electronics Co.,LTD.
218, Takayanagi, Meito, Nagoya, Aichi, 465-0034, Japan. TEL : +81-52-776-6431 FAX : +81-52-776-6535

YASKAWA CONTROLS CO., LTD.

MECHATROLINK-III Network Cables

Features

High-quality cables can be used to connect segments in a MECHATROLINK-III network to transfer information and signals. A variety of segments, such as host controllers, servo drives, stepping motor drives, inverters, I/O signals, and sensors are available for MECHATROLINK-III networks.

- Strict quality management, from material inspection to production.
- RoHS-compliant.



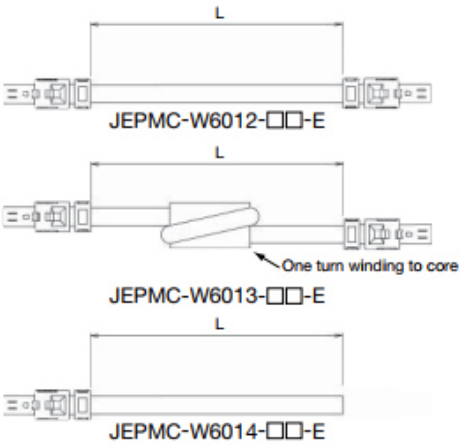
Model: JEPMC-W6012-□□-E
JEPMC-W6013-□□-E
JEPMC-W601□-□□-E

Specifications

Item	Specifications
Transmission Cable	Four a-core shielded twisted-pair wire Category-5 E
Cable Color	Blue
Maximum Transmission Distance	100m
Minimum Distance between Stations	0.2m
Connector	IMI connectors use

Note: For more information, contact our international business dept.

Dimensional Drawings



JEPMC-W601□-□□-E
- RoHS-compliant
- Length of cable
- 2 : No Core
- 3 : With Core
- 4 : No core and one side no connector

We provide various kinds of cables attached RJ-45 connector for MECHATROLINK-III networks. For more information, contact our international business dept.

Contact Information

YASKAWA CONTROLS CO., LTD.

U.S.A.	2121 Norman Drive South Waukegan IL 60085, USA	TEL : +1-847-887-7206	FAX : +1-847-887-7030
Representative Office Europe	Hauptstraße 185, 65760 Eschborn, Germany	TEL : +49-6196/569-322	FAX : +49-6196/569-398
Overseas Sales Div.	c/o Yaskawa Electric Corporation Yukuhashi Division 2-13-1 Nishimiyaichi, Yukuhashi, Fukuoka, 824-8511 Japan	TEL : +81-930-24-8630	FAX : +81-930-24-8637

URL : http://www.yaskawa-control.co.jp/

KUNSHAN FUJIX ELECTRONIC CO.,LTD

MECHATROLINK-III Communication Cable

Features

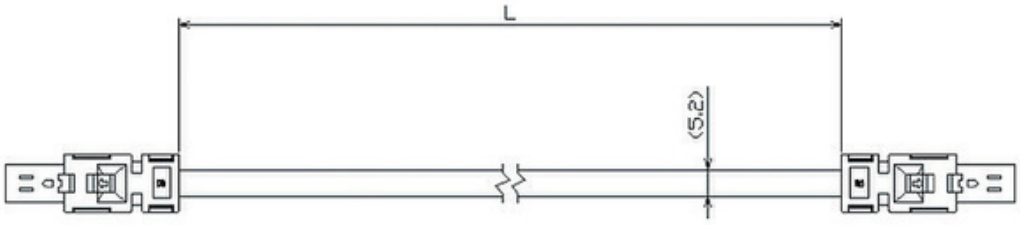


- MLCC-3 is High quality, High-speed communication of MECHATROLINK-III system is realized.
- Slim type (Conductor Size AWG26 / Outside Diameter 5.2mm)
- Communications Features TIA/EIA 568B Cat5e Compliance
- Safety Standard UL20379
- The PVC jacket excellent in heat resistance and oil resistance
- RoHS Compliance

Product Specification

Item	Specification
Conductor Size	26AWG
The number of cores	2P (4c)
Shield	Braid Shield
Color of Cable	Blue (Lusterless)
Outside diameter of Cable	5.2mm
Maximum Transmission Distance	100m
Minimum Distance Between Stations	0.2m
Terminal Connector	Industrial Mini I/O Connectors

Part number	Length (L)
MLCC-3-002	0.2m
MLCC-3-005	0.5m
MLCC-3-010	1m
MLCC-3-020	2m
MLCC-3-030	3m
MLCC-3-040	4m
MLCC-3-050	5m
MLCC-3-100	10m
MLCC-3-200	20m
MLCC-3-300	30m
MLCC-3-500	50m



Contact Information

KUNSHAN FUJIX ELECTRONIC CO., LTD.
Lisheng Road 77, Huaqiao Town, Kunshan, Jiangsu, China
TEL : +86-512-57696297
FAX : +86-512-57696296
E-mail : taneike@fujix-net.co.jp
URL : http://web.fujix-net.com/

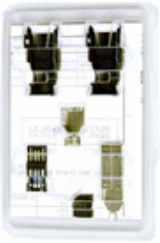
Tyco Electronics Japan G.K.

MECHATROLINK- II Connector KIT P/N 1827525-1

Features



- Connector Kit specially designed for MECHATROLINK- II
- The connector for the cable to be applied on one end is packed in a package.
- Crimp tool for the shield is available.
- A RoHS compliant product.



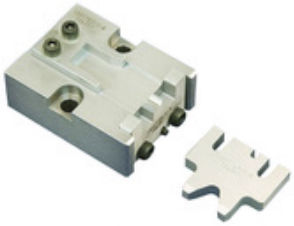
1827525-1



1891800-1

Specifications

• Specially designed for MECHATROLINK- II .
• Acceptable wire: DYDEN CORPORATION (HRZFV-SB AWG 25 × 2C).
• Please refer to the instruction sheet 114-5404 for the correct installation of the connector to the cable.
• Die Kit P/N 1891771-1 for the shields is also available.



1891771-1

Contact Information

Tyco Electronics Japan G.K.
Communications & Industrial Solutions (CIS)

Japan - Kawasaki	3-5-8 Hisamoto, Takatsuku, Kawasaki City, Kanagawa	TEL : +81-44-844-8111
China - Shanghai		TEL : +86-21-6485-0000
Germany - Bensheim		TEL : +49-6251-133-0
United States - Harrisburg, PA		TEL : +1-717-564-0100
Korea - Seoul		TEL : +82-2-3415-4500
Italy - Torino		TEL : +39-011-401-2111

Tyco Electronics Japan G.K.

MECHATROLINK- II Connector KIT
Bulk Pack Style P/N 2013706-1

Features

- 500 sets of connector kits specially designed for MECHATROLINK- II .
- 500 sets of the connectors to be applied on the one end of the cable are packed in a box.
- Crimp tool for the shied is available.
- A RoHS compliant product



500 set - pack



1891800-1



1891771-1

Specifications

• Specially designed for MECHATROLINK- II
• Applicable wire: DYDEN CORPORATION (HRZFV-SB AWG 25 × 2C)
• The instruction sheet 114-5404 contains information essential for proper assembly of the connector.
• Die Kit P/N 1891771-1 for the shields is available.

Contact Information

Tyco Electronics Japan G.K.
Communications & Industrial Solutions (CIS)

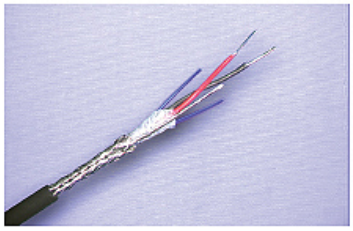
Japan - Kawasaki	3-5-8 Hisamoto, Takatsuku, Kawasaki City, Kanagawa	TEL : +81-44-844-8111
China - Shanghai		TEL : +86-21-6485-0000
Germany - Bensheim		TEL : +49-6251-133-0
United States - Harrisburg, PA		TEL : +1-717-564-0100
Korea - Seoul		TEL : +82-2-3415-4500
Italy - Torino		TEL : +39-011-401-2111

DYDEN CORPORATION

Cable for MECHATROLINK- II

Features

- MECHATROLINK- II conformity
- Oil-resistant, Flame-retardant Jacket
- UL Recognized Component (AWM style 20276)

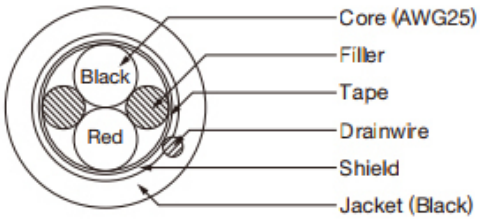


HRZFV-SB AWG25/2C

Specifications

Item	Specifications
Size	AWG25 × 2Core
Insulation color	Black, Red
Insulation diameter (mm)	1.34
Jacket color	Black
Overall diameter (mm)	4.8±0.2
Approx. Mass (kg/km)	30
Dielectric strength	AC 1000

Cross-Section of Cable



MECHATROLINK specifications

Matching Connector Kit : 1827525-1 (Tyco Electronics Japan G.k.)

Contact Information

DYDEN CORPORATION

U.S.A. Sun-Wa Technos America, Inc.	Woodfield Executive Plaza 1051 Perimeter Drive, Suite 625, Schaumburg, IL., 60173, U.S.A.	TEL : +1-847-969-0081	FAX : +1-847-969-0083
EUROPE Sun-Wa Technos (Europe) GmbH	Kaiserstr. 7, D-60311 Frankfurt am Main, Germany	TEL : +49-69-1338-950	FAX : +49-69-1338-9511
CHINA Shanghai Sun-Wa Technos Co., Ltd.	Room 1205, South Tower, Hongkong Plaza, 283 Huaihai zhong Rd. Shanghai, P.R.C.	TEL : +86-21-6390-6600	FAX : +86-21-6390-6590
OTHERS Sun-Wa Technos Corporation	Sanno Office Yamada Sanno Building, 14-3, 4-Chome, Sanno, Ota-ku, Tokyo 143-8560 Japan	TEL : +81-3778-1225	FAX : +81-3776-8330

URL : http://www.dydencables.com/

YASKAWA CONTROLS CO., LTD.

MECHATROLINK- II Network Cables

Features

High-quality cables can be used to connect segments in a MECHATROLINK- II network to transfer information and signals. A variety of segments, such as host controllers, servo drives, stepping motor drives, inverters, I/O signals, and sensors are available for MECHATROLINK- II networks.

- Strict quality management, from material inspection to production.
- Off-the-shelf cables of standard lengths for quick delivery.
- RoHS-compliant.



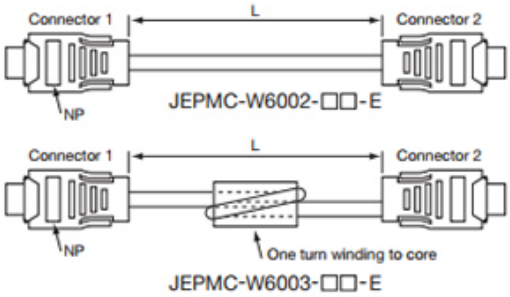
Model:
JEPMC-W6002-□□-E
JEPMC-W6003-□□-E (with ferrite core)

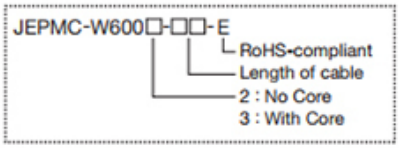
Specifications

Item	Specifications
Transmission Cable	Two-core shielded twisted-pair wire
Cable Color	Black
Maximum Transmission Distance	50m (100m with a repeater.)
Minimum Distance between Stations	0.5m
Terminator	130Ω

Note: For more information, contact our international business dept.

Dimensional Drawings





Contact Information

YASKAWA CONTROLS CO., LTD.

U.S.A.	2121 Norman Drive South Waukegan IL 60085, USA	TEL : +1-847-887-7206	FAX : +1-847-887-7030
Representative Office Europe	Hauptstraße 185, 65760 Eschborn, Germany	TEL : +49-6196/569-322	FAX : +49-6196/569-398
Overseas Sales Div.	c/o Yaskawa Electric Corporation Yukuhashi Division 2-13-1 Nishimiyaichi, Yukuhashi, Fukuoka, 824-8511 Japan	TEL : +81-930-24-8630	FAX : +81-930-24-8637

URL : http://www.yaskawa-control.co.jp/

YASKAWA CONTROLS CO., LTD.

MECHATROLINK- II Network Cable (Flexible Type)

Features

Made under the same strict quality control standards as standard cables, this flexible cable can be used for MECHATROLINK- II communications. It is more flexible than an optical cable and is best suited for wiring with a cable bearer.

- Durable with a fatigue strength of 10 million cycles in U-bend testing.
- Reinforced bending capability between the wire and a connector.
- Can be used with a standard cable, and communicated up to 20 m.
- All flexible cables are RoHS-compliant.



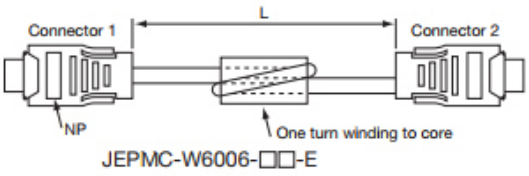
Model:
JEPMC-W6006-05-E (with ferrite core)
JEPMC-W6006-10-E (with ferrite core)
JEPMC-W6006-15-E (with ferrite core)
JEPMC-W6005-05-E (No ferrite core)
JEPMC-W6005-10-E (No ferrite core)
JEPMC-W6005-15-E (No ferrite core)

Specifications

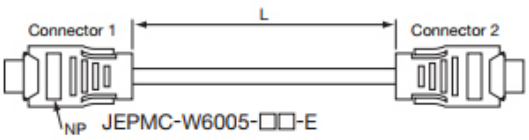
Item	Specifications
Transmission Cable	Two-core shielded twisted-pair wire (Flexible type)
Cable Color	Black
Maximum Transmission Distance	20 m (when using flexible cable)
Minimum Distance between Distance	0.5 m
Terminator	130Ω

*: For more information, contact your Yaskawa Controls sales representative.

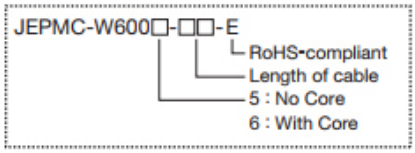
Dimensional Drawings



JEPMC-W6006-□□-E



JEPMC-W6005-□□-E



Contact Information

YASKAWA CONTROLS CO., LTD.

U.S.A.	2121 Norman Drive South Waukegan IL 60085, USA	TEL : +1-847-887-7206	FAX : +1-847-887-7030
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Overseas Sales Div.	c/o Yaskawa Electric Corporation Yukuhashi Division 2-13-1 Nishimiyaichi, Yukuhashi, Fukuoka, 824-8511 Japan	TEL : +81-930-24-8630	FAX : +81-930-24-8637

URL : http://www.yaskawa-control.co.jp/

YASKAWA ELECTRIC CORPORATION

MECHATROLINK-4/MECHATROLINK-III Communication LSI JL-L000A Sample Kit JZPMC-OPM 4 SK-1-E

Features

- This kit contains 5 set of main component parts for MECHATROLINK-4 standard circuit.
- It is convenient for prototype development.



JZPMC-OPM4SK-1-E

Specifications

Item	Specification
Model number	JZPMC-OPM4SK-1-E
One set contains the following items	JL-L000A（ASIC） 5 pcs. FLASH for JL-L000 5pcs. DP83849IVS/NOPB（PHY） 5pcs. S558-5999-Z5-F（pulse transformer） 10pcs. BLM18SG121TN1D（filter） 20pcs. MPZ2012S300AT（filter） 5pcs. BLM21BB201SN1D（filter） 40pcs. 2294415-2（IMI connector） 10pcs.

Note: Use a sample kit as a trial kit. All parts in the sample kit are not covered under warranty of our company.

Attention

To purchase this product, it is necessary to join the MECHATROLINK Members Association (MMA) with Board, Executive, User, Regular Membership.

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
YASKAWA has sales and after-sales service all around the world.
America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

YASKAWA ELECTRIC CORPORATION

MECHATROLINK-4/MECHATROLINK-III Master/Slave Communication LSI JL-L000A

Features

- A product with MECHATROLINK-4 can develop easily in the combination of this LSI and Host CPU.
- It also supports MECHATROLINK-III.
- A FLASH memory dedicated to this ASIC is also included.
- RoHS-compliant



JL-L000A

Specifications

Item	Specification
Model	JZPMC-MD001A-60P
Application	MECHATROLINK-4/MECHATROLINK-III master/slave
Packing unit	60 pcs.
Dimension	JL-L000A：PFBGA (0.8mm pitch) 481pin 21x21mm
Notes	JL-L000A dedicated FLASH（8pin SOP 5.2x7.9 mm） are included(60pcs.).

Attention

To purchase this LSI, it is necessary to join the MECHAROLINK members Association (MMA) with Board, Executive, User, Regular Membership.

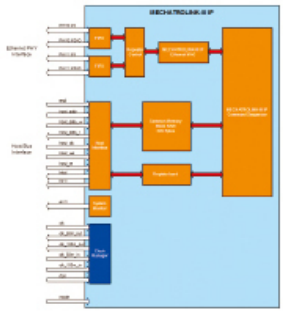
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Tokyo Electron Device Ltd.

MECHATROLINK-III Master / Slave IP core

Features



MECHATROLINK-III is a communication standard meets the demands of the motion field network market that required higher transmission speed, transmission cycle, transmission distance, maximum slave number, more than ever.
By adopting this IP core provided by Tokyo Electron Device Co., Ltd. for Xilinx's FPGA enables to reduce number of parts, development cost and development period greatly.

- Master function or Slave function
- Built-in CPU in FPGA enables to perform intelligent function using RTOS with one chip
- Synchronized to a clock of up to 66 MHz, connectable to a high-speed synchronous bus such as PCI without reduced throughput

Specification

Item	Specifications
Target FPGA	Xilinx Spartan®-6 LX FPGA / Spartan-6 LXT FPGA / Zynq®-7000 SoC
Network Interface	MECHATROLINK-III Network ×2 port (MII I/F 100Mbps Full Duplex designated)
Host Interface	32bit shared memory interface / 32bit register interface
Host Interrupt	2 level Interrupt request output
Host Interface Byte Order	Little endian
Product Type	TIP-ML3MST-S6/7Z-PROJ (MECHATROLINK-III Master Dedicated IP) TIP-ML3SLV-S6/7Z-PROJ (MECHATROLINK-III Slave Dedicated IP)

Attention

To purchase this LSI, it is necessary to join the MECHATROLINK Members Association (MMA) with Board, Executive, Regular Membership.

Contact Information

Tokyo Electron Device Ltd.
TOKYO ELECTRON DEVICE LIMITED
Yokohama East Square 1-4, Kinko-cho, Kanagawa-ku, Yokohama City, Kanagawa 221-0056, Japan
TEL : +81-45-443-4034
FAX : +81-45-443-4059
URL : http://www.inrevium.com/product/industry/tip-ml3mst-proj.html

YASKAWA ELECTRIC CORPORATION

MECHATROLINK-III Sample Kit JEPMC-OPM3SK-1-E, JEPMC-OPM3SK-2-E

Features

This kit contains 5 set of main component parts for MECHATROLINK-III standard circuit.
It is convenient for prototype development.



JEPMC-OPM3SK-1-E
JEPMC-OPM3SK-2-E

Specifications

JL-100 Samplekit	
Model Number	JEPMC-OPM3SK-1-E
One set contains the following five items	JL-100A (ASIC's 144pins 12mm) 5parts H1102NL (pulse transformer) 10parts BLM21BB201SN1D (filter) 40parts DP83849IVS (PHY) 5parts 1981386-1 (connector) 10parts

JL-101 Samplekit	
Model Number	JEPMC-OPM3SK-2-E
One set contains the following five items	JL-101A (ASIC's 144pins 20mm) 5parts H1102NL (pulse transformer) 10parts BLM21BB201SN1D (filter) 40parts DP83849IVS (PHY) 5parts 1981386-1 (connector) 10parts

Note: Use a sample kit as a trial kit. All parts in the sample kit are not covered under warranty of our company.

Contact Information

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America: U.S.A., Brazil, Canada, Mexico
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Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

YASKAWA ELECTRIC CORPORATION

MECHATROLINK-III Sample Kit JEPMC-OPM3SK-3-E, JEPMC-OPM3SK-4-E

Features

This kit contains 5 set of main component parts for MECHATROLINK-III standard circuit. It is convenient for prototype development.



JEPMC-OPM3SK-3-E
JEPMC-OPM3SK-4-E

Specifications

JL-102 Samplekit	
Model Number	JEPMC-OPM3SK-3-E
One set contains the following five items	JL-102A (ASIC's 144pins 12mm) 5parts H1102NL (pulse transformer) 10parts BLM21BB201SN1D (filter) 40parts DP83849IVS (PHY) 5parts 1981386-1 (connector) 10parts

JL-103 Samplekit	
Model Number	JEPMC-OPM3SK-4-E
One set contains the following five items	JL-103A (ASIC's 100pins 14mm) 5parts H1102NL (pulse transformer) 10parts BLM21BB201SN1D (filter) 40parts DP83849IVS (PHY) 5parts 1981386-1 (connector) 10parts

Note: Use a sample kit as a trial kit. All parts in the sample kit are not covered under warranty of our company.

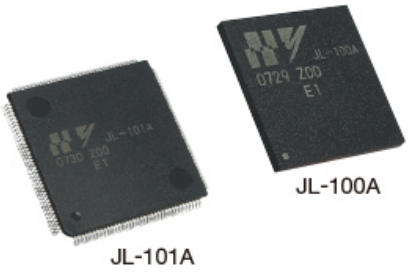
Contact Information

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YASKAWA ELECTRIC CORPORATION

MECHATROLINK-III Master/Slave Communication LSI JL-100A, JL-101A

Features



- A product with MECHATROLINK-III can develop easily in the combination of this LSI and Host CPU.
- JL-100A/JL-101A is compatibility with functional.
  Only packages differ.
  JL-100A : FBGA 144pins
  JL-101A : LQFP 144pins
- RoHS-compliant

Specifications

JL-100A		
Item	**Specifications**	
Model	JL-100A-FBGA-76P	JL-100A-FBGA-304P
Application	MECHATROLINK-III, master/slave-use	
Packing unit	76 pcs.	304 pcs.
LSI dimensions	FBGA (0.8mm pitch Ball Grid Array Package) 144pins 12 × 12mm BODY, pin interval 0.8mm	

JL-101A		
Item	**Specifications**	
Model	JL-101A-LQFP-60P	JL-101A-LQFP-300P
Application	MECHATROLINK-III, master/slave-use	
Packing unit	60 pcs.	300 pcs.
LSI dimensions	LQFP (Low Profile Quad FLAT Package) 144 pins 20 × 20mm BODY, pin interval 0.5mm	

Attention

• To purchase this LSI, it is necessary to join the MECHATROLINK Members Association (MMA) with Board, Executive, Regular Membership.

Contact Information

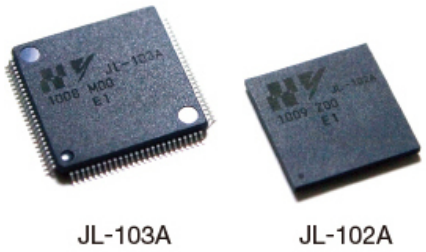
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YASKAWA ELECTRIC CORPORATION

MECHATROLINK-III Slave Communication LSI JL-102A, JL-103A

Features

- A slave product with MECHATROLINK-III can develop easily in the combination of this LSI and Host CPU.
- JL-102A/JL-103A is compatibility with functional.
  Only packages differ.
  JL-102A : FBGA 144pins
  JL-103A : LQFP 100pins
- RoHS-compliant



JL-103A JL-102A

Specifications

JL-102A		
Item	**Specifications**	
Model	JL-102A-FBGA-76P	JL-102A-FBGA-304P
Application	MECHATROLINK-III, slave-use	
Packing unit	76 pcs.	304 pcs.
LSI dimensions	FBGA (0.8mm pitch Ball Grid Array Package) 144pins 12 × 12mm BODY, pin interval 0.8mm	

JL-103A		
Item	**Specifications**	
Model	JL-103A-LQFP-90P	JL-103A-LQFP-450P
Application	MECHATROLINK-III, slave-use	
Packing unit	90 pcs.	450 pcs.
LSI dimensions	LQFP (Low Profile Quad FLAT Package) 100pins 14 × 14mm BODY, pin interval 0.5mm	

Attention

• To purchase this LSI, it is necessary to join the MECHATROLINK Members Association (MMA) with Board, Executive, Regular Membership.

Contact Information

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YASKAWA ELECTRIC CORPORATION

MECHATROLINK- II Sample Kit JL-080, JL-052, JL-098

Features

JL-080 (Master and slave)
JL-052 (slave only)
JL-098 (Master only)
This kit contains 5 set of main component parts for MECHATROLINK- III standard circuit.
It is convenient for prototype development.



Model: JEPMC-OPM2SK-☐-E

Specifications

JL-080 Sample Kit	
Model Number	JEPMC-OPM2SK-1-E
Qty. 5 of five different parts (total of 25 parts)	JL-080B (ASICs 144 pins ☐ 20 mm) T202004DT (pulse transformer) SN65HVD05DR (driver/receiver) SG-8002JC 40 MHz (crystal oscillator) 1903815-1 (USB 2-stage connector)

JL-052 Sample Kit	
Model Number	JEPMC-OPM2SK-2-E
Qty. 5 of five different parts (total of 25 parts)	JL-052C (ASICs 100 pins ☐ 14 mm) T202004DT (pulse transformer) SN65HVD05DR (driver/receiver) FA-365 15 MHz (crystal oscillator) 1903815-1 (USB 2-stage connector)

JL-098 Sample Kit	
Model Number	JEPMC-OPM2SK-3-E
Qty. 5 of five different parts (total of 25 parts)	JL-098B (ASICs 144pins ☐ 20 mm) T202004DT (pulse transformer) SN65HVD05DR (driver/receiver) SG-8002CE 25MHz (crystal oscillator) 1903815-1 (USB 2-stage connector)

Note: Use a sample kit as a trial kit. All parts in the sample kit are not covered under warranty of our company.

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
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America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

YASKAWA ELECTRIC CORPORATION

MECHATROLINK- II Slave Exclusive Communication LSI JL-052C

Features

- A product with MECHATROLINK can easily be developed, whatever the communication protocol.
- This LSI applies only to MECHATROLINK- II .
- Because of the slave-exclusive design, this product is cheaper and more economical than the JL-080 to develop a MECHATROLINK- II slave device.
- RoHS-compliant



JL-052C

Specifications

JL-052C		
Item	Specifications	
Model	TC220EA002EFGA2JDZ	TC220EA002EFG-A2
Application	MECHATROLINK- II , slave-use	
Packing unit	90 pcs.	450 pcs.
LSI dimensions	LQFP (Low Profile Quad FLAT Package), 100 pins, 14mm × 14mm BODY, pin interval 0.5mm	

Attention

• To purchase this LSI, it is necessary to join the MECHATROLINK Members Association (MMA) with Board, Executive, Regular Membership.

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
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YASKAWA ELECTRIC CORPORATION

MECHATROLINK- Ⅰ / Ⅱ Master Communication LSI JL-080B

Features

- A product with MECHATROLINK can easily be developed, whatever the communication protocol.
- This LSI applies to both MECHATROLINK- Ⅰ and MECHATROLINK- Ⅱ.
- RoHS-compliant



JL-080B

Specifications

JL-080B		
Item	**Specifications**	
Model	TC190C640EFG005JDZ	TC190C640EFG-005
Application	MECHATROLINK- Ⅰ / Ⅱ, master use	
Packing unit	60 pcs.	300 pcs.
LSI dimensions	LQFP (Low Profile Quad FLAT Package), 144 pins, 20mm × 20mm BODY, pin interval 0.5mm	

Attention

• To purchase this LSI, it is necessary to join the MECHATROLINK Members Association (MMA) with Board, Executive, Regular Membership.

Contact Information

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YASKAWA ELECTRIC CORPORATION

MECHATROLINK- Ⅰ / Ⅱ , Master Communication LSI JL-098B

Features

- A product with MECHATROLINK- Ⅰ , Ⅱ can develop easily in the combination of this LSI and Host CPU.
- Power supply voltage is a 3.3V single power supply.
- RoHS-compliant.



JL-098B

Specifications

JL-098B	
Item	**Specifications**
Model	TC220C620EFG104JDZ
Application	MECHATROLINK- Ⅰ , Ⅱ master use
Packing unit	300pcs
LSI dimensions	LQFP (Low Profile Quad FLAT Package) 144pins 20 × 20mm Body, pin interval 0.5mm

Attention

• To purchase this LSI, it is necessary to join the MECHATROLINK Members Association (MMA) with Board, Executive, Regular Membership.

Contact Information

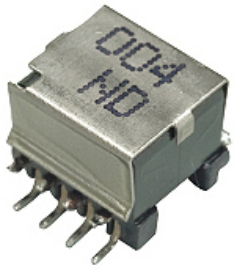
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YASKAWA ELECTRIC CORPORATION

MECHATROLINK- II Pulse Transformer T202004ND

Features

- Exclusively for MECHATROLINK
- For JL-080B, J-052C, JL-098B standard circuits
- RoHS-compliant



T202004ND

Specifications

Item	Specifications
Model	T202004ND
Application	MECHATROLINK- II master/slave-use
Packing unit	300 pcs. (1 reel)
Dimensions	Width 11mm × Height 9mm × Depth 11mm, 8pins SMD

Attention

• To purchase this Pulse Transformer, it is necessary to join the MECHATROLINK Member Association (MMA) with Board, Executive, Regular Membership.

Price

Item	Specifications
Model	T202004ND
Packing unit	300 pcs. (1 reel)
Price	¥105,000

Contact Information

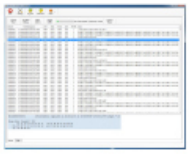
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Hilscher Japan KK

MECHATROLINK-III Analyzer

Features





- Real time precise measurement of delay and jitter
- Passive recording with zero-delay
- TAP (Test Access Points) with 4 Ethernet ports
- Possible to find out real network performance beside catalogue data
- Suitable for predictive maintenance, trouble shooting, development and evaluation
- Third-party software for MECHATROLINK-III Analyzer

  download link:
  https://github.com/mechatrolink-analyzer/mechatrolink-analyzer
- Supporting Multi-protocol by one hardware for all Real Time Ethernet

Specifications

Basic Specification & Characteristic

Model	NANL-C500-RE	NANL-B500G-RE
Host PC Interface	PCI	Gigabit Ethernet
Device Type	Built-in	Portable
Capture Interface	4× 10/100 Ethernet, 4× digital IO 3.3 V	4× 10/100 Ethernet, 4× digital IO 3.3 V/24 V
Network Access	Zero Delay / Test Access Point	
Capture Behavior	Fully Passive / 10 ns Resolution / Capture Error Frames	

PC Hardware requirements

CPU	Intel compatible CPU, approx. 2 GHz or faster
RAM	1GB Min. RAM
Display	SVGA 1024×768 16bit colors or better
Drive	DVD ROM Drive (Software installation)
Hard disk	20MB HDD space available (netANALYZER) Min. 1GB HDD space available (Log data)

PC Software requirements

OS	Windows XP professional SP3 (32bit, 64bit) Windows Vista (32bit, 64bit) Windows 7 (32bit, 64bit)
Related Software	Microsoft .NET Framework Version 2.0 WireShark (Free software)

Contact Information

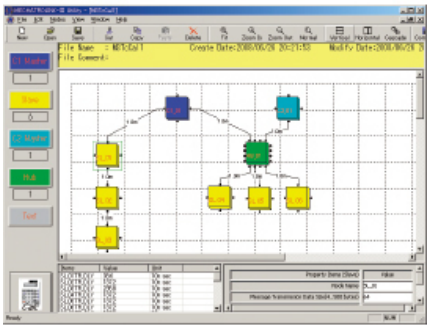
Hilscher Japan KK
Itchome Sanbankan Bldg. 1-3-12, Shinjuku, Shinjuku-ku, Tokyo,
160-0022 Japan
E-mail : info@hilscher.jp
URL : https://www.hilscher.com/

MECHATROLINK Members Association

MECHATROLINK-III Utility Software

Features

- System configuration is defined by putting the icons (C1/C2 master, slave, Hub) and connecting them with lines in the canvas and setting the parameters such as communication data size, cable length, retry times, and so on. This software calculates the minimum transmission cycle time in that system.
- This software is free for MMA members. MMA members can download it from MMA website for MMA members only.



Contact Information

MECHATROLINK Members Association

MMA Japan (Head Office)	480 Kamifujisawa, Iruma, Saitama, 358-0013 Japan	TEL : +81-4-2962-7920	FAX : +81-4-2962-6343
MMA Germany	Hauptstr. 185 65760 Eschborn Germany	TEL : +49-6196-569420	
MMA U.S.	2121 Norman Drive South, Waukegan, IL 60085, U.S.A.	TEL : +1-847-887-7231	
MMA Korea	35F, Three IFC, 10 Gukjegeumyung-ro, Yeongdeungpo-gu, Seoul	TEL : +82-2-368-8875	
MMA China (Shenyang Office)	No.16, East Nanping Road, Hunnan High-tech. Industrial Development Zone, Shenyang, 110171 CHINA	TEL : +86-24-24696016	
MMA China (Shanghai Office)	22/F One Corporate Avenue No.222 Hubin Road, Huangpu District Shanghai, 200021 CHINA	TEL : +86-21-53852070	
MMA Taiwan	12F., No.207, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)	TEL : +886-2-8913-1333	
MMA Asean	151 Lorong Chuan, #04-02A, New Tech Park, SINGAPORE 556741	TEL : +65 6488 8365	
MMA India	17/A, 2nd Main, Electronic City, Phase-1, Hosur Road, Bengaluru - 560 100, INDIA	TEL : +91-80-4244-1920	

E-mail : mma@mechatrolink.org
URL : http://www.mechatrolink.org

MECHATROLINK Members Association

MECHATROLINK-III Sample application

Features



Sample application (C language source code) is prepared as an aid in software development.

- Sample application includes the example of initialization, command process and so on as C source code.
- Sample for C1 master : Standard servo profile commands are used. (Not all commands)
- Sample for slave : Standard I/O profile commands are used. (Not all commands)
- This software is free for MMA members. MMAmembers can download it from MMA website for MMA members only.

Contact Information

MECHATROLINK Members Association

MMA Japan (Head Office)	480 Kamifujisawa, Iruma, Saitama, 358-0013 Japan	TEL : +81-4-2962-7920	FAX : +81-4-2962-6343
MMA Germany	Hauptstr. 185 65760 Eschborn Germany	TEL : +49-6196-569420	
MMA U.S.	2121 Norman Drive South, Waukegan, IL 60085, U.S.A.	TEL : +1-847-887-7231	
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MMA China (Shenyang Office)	No.16, East Nanping Road, Hunnan High-tech. Industrial Development Zone, Shenyang, 110171 CHINA	TEL : +86-24-24696016	
MMA China (Shanghai Office)	22/F One Corporate Avenue No.222 Hubin Road, Huangpu District Shanghai, 200021 CHINA	TEL : +86-21-53852070	
MMA Taiwan	12F., No.207, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)	TEL : +886-2-8913-1333	
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MMA India	17/A, 2nd Main, Electronic City, Phase-1, Hosur Road, Bengaluru - 560 100, INDIA	TEL : +91-80-4244-1920	

E-mail : mma@mechatrolink.org
URL : http://www.mechatrolink.org

YASKAWA ELECTRIC CORPORATION

Network Analyzer for MECHATROLINK- Ⅰ / Ⅱ 87215-95121-S0103

Features

The Network Analyzer can perform the following:

- The communication of MECHATROLINK per station is displayed online. (Network Status Display)
- The transmission data (1 window per station) is displayed, or it is possible to open multiple windows and display multiple stations' data at the same time. (Link Monitor)
- Data that meets filter conditions is saved until trigger stop conditions are established and displayed it chronologically. (Trace)
- Trigger Signal Output on external terminal during trigger establishment while executing trace. (Trigger Signal Output Function)



87215-95121-S0103

Specifications

Item	Specifications
Product name	MECHATROLINK- Ⅰ / Ⅱ Applied Network Analyzer
Product model	87215-9512x-S010y (x and y indicate design order)
Input power & power consumption	100VAC (85 to 132 VAC) 50/60Hz, 10W
Operation temperature	0 to 55°C
Storage temperature	−20 to +85°C
Mass	850g
Tool (Software) model	JEPMC-NWAN700 (Media is CD-ROM. Connection cable between unit and PC attached.) (Note: This software is not included in the Network Analyzer Main Unit, and should ordered separately if necessary.)

System Configurations

The Network Analyzer consists of main unit and tool (software to operate after installation on the PC). The PC for tool installation should be supplied at your end. The PC required specifications are as follow:

Item	Specifications
PC model	PC/AT compatible machine
OS	Windows98/2000/XP, WindowsNT4.0
Memory required	32Mbytes and above
Hard disk capacity	100Mbytes and above
Screen resolution	800 × 600 dots and above
COM port	1 port available as exclusive port

Note: MECHATROLINK cable to connect the Network Analyzer to the transmission circuit, to be separately ordered if necessary.

Contact Information

Please access YASKAWA website (Please click. Then you can access.)
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America: U.S.A., Brazil, Canada, Mexico
Asia Pacific: China, Korea, Taiwan, Singapore, India
Europe: Germany, Sweden, Israel, Italy, France, Spain, Finland, Netherlands, Slovenia, Czech republic, Turkey

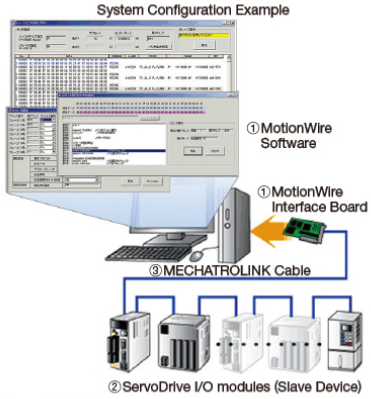
YE DIGITAL Corporation

MotionWire StarterKit

Features

- Easy setup the MECHATROLINK Network
  Starter kit consists of Windows-based PC and PCI bus-interface board. You can use the network easily and immediately without complected configuration, after set up the hardware, put interface board to PC and install application.
- Just prepare this master-controller for the slave device development It was necessary to prepare all the corresponding master controllers in the slave developing equipment before. But this starter kit can freely compose the command issuing a master controller and apply as a virtual master controller, and also can add them easily an arbitrary command of an original protocol to say nothing of the standard command protocol with the command definitions.
- Embedded the monitoring function of Network Analyzer class Starter kit realizes the trace monitoring function on the interface board, which is monitoring the sending/receiving data between specified stations using the advantage of the own master control function. The confuguration of trigger condition enables to get the communication log (the maximum 16MB) in pinpoint and also collect communication data every communication cycle as well as the Network Analyzer.
- Realize the communication sequence control with script
  Easy command script can control up to 21 slave communication command issues. It realizes the power when the programed communication sequence perform repeatedly like the communication examinations.

System Configuration Example



①C1 master device
Hardware : Use the MECHATROLINK Interface Boardfor MotionWire only, which enables PC to be embedded the M-1/2 communication interface.
Software : sets up the communication of embedded interface board, transports the MECHATROLINK command and displays the communication data, for user easily.
②Slave device
Prepare the MECHATROLINK-capable products. All devices including MECHATROLINK-capable general device enable to connect.
③MECHATROLINK cables
Terminator is necessary to connect the terminal of the MECHATROLINK-2-capable cable and connector. (*)
* : not including in starter kit, please prepare separately.

Specifications

Item	Specifications
PC	PC/AT DOS/V Compatibility
CPU	Pentium II 300MHz more
Main memory	128MB more (recommended 256MB more)
Amount of HDD space	20MB more
Resolution	XGA monitor (1024×768)
Color number	256 more (recommended 65536 more)
OS	WindowsXP SP1 or later, Windows2000 SP2 or later
PCI bus	1 empty slot more
Others	Need CD-ROM drive (in install only)

MECHATROLINK specifications

		M- I	M- II	
		17-byte	17-byte	32-byte
Command	Servo	×	×	×
	Stepping Motor Drivers	×	×	×
	Intelligent I/O	×	×	×
	Simple I/O	×	×	×
	Inverter	×	×	×
Transmission cycle		2ms	0.25ms to 8ms	

Note: It operates as a master equipment.

Contact Information

YE DIGITAL Corporation
Iruma office 480, Kamifujisawa, Iruma, Saitama 358-8555, Japan TEL : +81-4-2962-5973 FAX : +81-4-2966-0748
URL : https://www.ye-digital.com

Updated History

Updated Date : 2024/10/22

■Updated

- Micronet Co. : Contact Information is updated

Updated Date : 2024/09/11

■Updated

- MG Co., Ltd. : Contact Information is updated

Updated Date : 2024/05/17

■Updated

- HOKUYO AUTOMATIC CO., LTD. : Contact Information is updated

Updated Date : 2024/02/08

■Deleted

- Anywire Corporation : MECHATROLINK-Ⅲ Bit Distributed I/O Terminal AB023-M2
- Anywire Corporation : MECHATROLINK Bit Distributed I/O Terminal AB023-M1

Updated Date : 2023/11/21

■Added

- YASKAWA ELECTRIC CORPORATION : AC Servo Drives Σ-X-Series Σ-XS Models with MECHATROLINK-4/III Communications References
- YASKAWA ELECTRIC CORPORATION : AC Servo Drives Σ-X-Series Σ-XW Models (Two Axes) with MECHATROLINK-4/III Communications References
- MICRO TECHNICA CO LTD., : Vision Sensor Camera
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-4/MECHATROLINK-Ⅲ Communication LSI JL-L000A Sample Kit JZPMC-OPM 4 SK-1-E
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-4/MECHATROLINK-Ⅲ Master/Slave Communication LSI JL-L000A

■Updated

- Yokogawa Electric Corporation : Leading Edge Controller (with MECHATROLINK-Ⅲ Interface)

- Anywire Corporation : MECHATROLINK-Ⅲ Bit Distributed I/O Terminal AB023-M2
- MG Co., Ltd. : MECHATROLINK-Ⅲ REMOTE I/O R7 Series
- HOKUYO AUTOMATIC CO., LTD. : Optical repeater for MECHATROLINK-Ⅲ

Updated Date : 2022/11/29

■Updated

- Hilscher Japan KK : MECHATROLINK-III Analyzer
- Hilscher Japan KK : Contact Information is updated

Updated Date : 2022/01/18

■Added

- ORIENTAL MOTOR Co.,Ltd. : Stepping Motor αSTEP AZ Series AC Power Input Driver MECHATROLINK-Ⅲ Compatible

■Updated

- ORIENTAL MOTOR Co.,Ltd. : Stepping Motor αSTEP AZ Series Axes Driver MECHATROLINK-Ⅲ Compatible

Updated Date : 2022/01/05

■Updated

- ORIENTAL MOTOR Co.,Ltd. : Stepping Motor αSTEP AZ Series Axes Driver MECHATROLINK-Ⅲ Compatible
- ORIENTAL MOTOR CO.,Ltd. : Contact Information is updated

Updated Date : 2021/05/18

■Updated

- TECHNO HORIZON Co.,Ltd. : Contact Information is updated

Updated Date : 2021/05/17

■Updated

- TECHNO HORIZON Co.,Ltd. : Contact Information is updated

Updated Date : 2021/01/07

■Updated

- DYDEN CORPORATION : Cable for MECHATROLINK-Ⅲ
- DYDEN CORPORATION : Cable for MECHATROLINK-Ⅱ
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-Ⅲ Sample Kit JEPMC-OPM3SK-1-E, JEPMC-OPM3SK-2-E
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-Ⅲ Sample Kit JEPMC-OPM3SK-3-E, JEPMC-OPM3SK-4-E
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-Ⅱ Sample Kit JL-080, JL-052, JL-098

Updated Date : 2020/09/14

■Deleted

- DELTA TAU Data Systems Inc. : Turbo PMAC2 Motion Controller Using MECHATROLINK-Ⅲ

Updated Date : 2020/06/08

■Updated

- OMRON Corporation : Contact Information is updated

Updated Date : 2020/06/05

■Deleted

- YASKAWA ELECTRIC CORPORATION : Direct Drive Motor DYNASERV Intelligent Drive DrvGⅢ

Updated Date : 2020/04/23

■Updated

- YASKAWA ELECTRIC CORPORATION : PCI Standard MECHATROLINK-Ⅲ Interface Card JAPMC-NT112A-E
- YASKAWA ELECTRIC CORPORATION : PCI Standard MECHATROLINK-Ⅱ Interface Card JAPMC-NT110, JAPMC-NT111

Updated Date : 2019/03/05

■**Updated**

- Anywire Corporation : MECHATROLINK Bit Distributed I/O Terminal AB023-M1

Updated Date : 2019/01/29

■**Deleted**

- Sky Link Corporation : MECHATROLINK-Ⅲ StarterKit
- Sky Link Corporation : MECHATROLINK-Ⅲ Analyzer

Updated Date : 2019/01/28

■**Deleted**

- ORIENTAL MOTOR Co.,Ltd. : Stepping Motor and Driver Package α STEP High-Efficiency ARL series

Updated Date : 2018/04/29

■**Updated**

- Micronet Co. : Real-time OS Intime

Updated Date : 2018/02/06

■**Updated**

- MECHATROLINK Members Association : MECHATROLINK-Ⅲ Sample application

Updated Date : 2017/12/27

■**Updated**

- YASKAWA ELECTRIC CORPORATION : Board-type Machine Controller MP2100, MP2100M

- YASKAWA ELECTRIC CORPORATION : Board-type Machine Controller MP2110, MP2110CP, MP2110M, MP2110MCP
- YASKAWA ELECTRIC CORPORATION : Flexible Machine Controller MP2200
- YASKAWA ELECTRIC CORPORATION : All-in-one Machine Controller MP2300
- YASKAWA ELECTRIC CORPORATION : Compact All-in-one Machine Controller MP2300S
- YASKAWA ELECTRIC CORPORATION : Compact Machine Controller MP2400
- YASKAWA ELECTRIC CORPORATION : PCI Standard MECHATROLINK-Ⅱ Interface Card JAPMC-NT110, JAPMC-NT111
- YASKAWA ELECTRIC CORPORATION : Board-type Machine Controller MP2111T, MP2111TM, MP2111TMCP
- YASKAWA ELECTRIC CORPORATION : Integrated Machine Controller MP3200
- YASKAWA ELECTRIC CORPORATION : PCI Standard MECHATROLINK-Ⅲ Interface Card JAPMC-NT112A-E
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-Ⅲ Motion control module SVC-01
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-Ⅲ Motion control module (with CPU function) MPU-01
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-Ⅱ Σ-V series AC Servo Drives
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-Ⅱ Σ-V mini Ultra-Compact AC Servo Drives
- YASKAWA ELECTRIC CORPORATION : Direct Drive Motor DYNASERV Intelligent Drive DrvGⅢ
- YASKAWA ELECTRIC CORPORATION : AC Servo Drives Σ-7-Series SERVOPACKs Σ-7C Two-Axis SERVOPACKs with Built-in Controller
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-Ⅲ Σ-V series AC Servo Drives
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-Ⅲ Σ-V mini Ultra-Compact AC Servo Drives
- YASKAWA ELECTRIC CORPORATION : Slave Devices for MECHATROLINK-Ⅱ IO2310, IO2330, PL2900, PL2910, AN2900, AN2910
- YASKAWA ELECTRIC CORPORATION : Slave Devices for MECHATROLINK-Ⅱ IO2900, IO2910, IO2920, IO2950
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-Ⅲ 64-points I/O Module MTD2310
- YASKAWA ELECTRIC CORPORATION : Analog Input Module MTA2900
- YASKAWA ELECTRIC CORPORATION : Analog Output Module MTA2910
- YASKAWA ELECTRIC CORPORATION : Pulse Input Module MTP2900
- YASKAWA ELECTRIC CORPORATION : Pulse Output Module MTP2910
- YASKAWA ELECTRIC CORPORATION : Network Machine Vision System MYVIS YV260
- YASKAWA ELECTRIC CORPORATION : Repeater for MECHATROLINK-Ⅱ JEPMC-REP2000
- YASKAWA ELECTRIC CORPORATION : HUB module for MECHATROLINK-Ⅲ MT2000
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-Ⅱ Slave Exclusive Communication LSI JL-052C
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-Ⅰ/Ⅱ Master Communication LSI JL-080B
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-Ⅰ/Ⅱ, Master Communication LSI JL-098B
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-Ⅱ Pulse Transformer T202004ND
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-Ⅲ Master/Slave Communication LSI JL-100A, JL-101A
- YASKAWA ELECTRIC CORPORATION : MECHATROLINK-Ⅲ Slave Communication LSI JL-102A, JL-103A
- YASKAWA ELECTRIC CORPORATION : Network Analyzer for MECHATROLINK-Ⅰ/Ⅱ 87215-95121-S0103

Updated Date : 2017/12/09

■**Deleted**

- MOVENSYS Inc. : High-End General Motion Controller SMP Series

MECHATROLINK

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Contact:

If you wnat to join the MECHATROLINK Members Association or have any inquiries, please contact us below:

MECHATROLINK Members Association

URL : http://www.mechatrolink.org/

MMA Japan (Head Office)	480 Kamifujisawa, Iruma, Saitama, 358-0013 Japan • Phone: +81-4-2962-7920 • FAX: +81-4-2962-6343 • e-mail: mma@mechatrolink.org
MMA Germany	Hauptstr. 185 65760 Eschborn Germany • Phone: +49-6196-569420 • e-mail: mma@mechatrolink.de
MMA U.S.	2121 Norman Drive South, Waukegan, IL 60085, U.S.A. • Phone: +1-847-887-7231 • e-mail: mma-us@mechatrolink.org
MMA Korea	35F, Three IFC, 10 Gukjegeumyung-ro, Yeongdeungpo-gu, Seoul • Phone: +82-2-368-8875 • e-mail: mma-kr@mechatrolink.org
MMA China	Shenyang Office No.16, East Nanping Road, Hunnan High-tech. Industrial Development Zone, Shenyang, 110171 CHINA • Phone: +86-24-24696016 • e-mail: mma-cn@mechatrolink.org Shanghai Office 22/F One Corporate Avenue No.222 Hubin Road，Huangpu District Shanghai, 200021 CHINA • Phone: +86-21-53852070 • e-mail: mma-sh@mechatrolink.org
MMA Taiwan	12F., No.207, Sec. 3, Beixin Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.) • Phone: +886-2-8913-1333 • e-mail: mma-tw@mechatrolink.org
MMA Asean	151 Lorong Chuan, #04-02A, New Tech Park, SINGAPORE 556741 • Phone: +65 6488 8365 • e-mail: mma-sg@mechatrolink.org
MMA India	17/A, 2nd Main, Electronic City, Phase-1, Hosur Road, Bengaluru - 560 100, INDIA • Phone: +91-80-4244-1920 • e-mail: mma-in@mechatrolink.org

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